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JOHN BERRY

CARL MURCHISON

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THE TIME FUNCTION IN THE EXPERIMENTAL FORMATION OF SOCIAL HIERARCHIES OF DIFFERENT SIZES IN *GALLUS DOMESTICUS*¹

From the Psychological Laboratories of Clark University

CARL MURCHISON

BRIEF SUMMARY OF THEORY ALREADY FORMULATED

The description of a single isolated social hierarchy as a system of mutually dependent variables has already been accomplished (1-5, 7) for *Gallus domesticus*, and that description has been stated in terms of the general equation $y = m(p + q + r + s + t) + C$. This equation was derived from multiple simultaneous coordinates, and the successive steps in the derivation consisted of certain classical operations which occurred in a certain definite order of succession. These operations began with a series of generalizations

the number of which satisfied the demands of $\frac{1}{2} n^2 - \frac{1}{2} n$.

Inspection revealed linear functions in all cases, so the total number of generalizations was reduced to the minimum number that would preserve the experimental value of y intercepts. This number was found to be four. Inverse rank order of coordinate measurement was now introduced, which resulted in reducing all y intercepts to zero. This made possible the reduction of the four generalizations to one single equation $y_p = x_{q,r,s,t}$. Multiple simultaneous coordinates were now introduced and the method progressed successively through partial differentiation, elimination by substitution of the differential coefficients, integration, reduction to a single tangent value, the elimination of the constant of integration as of zero value, to the formulation of the general equation. For convenience in graphical inspection the final steps of this method are reproduced in Figure 1 from a previous paper. Unless the significance of the method just described is thoroughly comprehended, it will be more

¹Read before Section I of the American Association for the Advancement of Science, St. Louis, December 30, 1935.

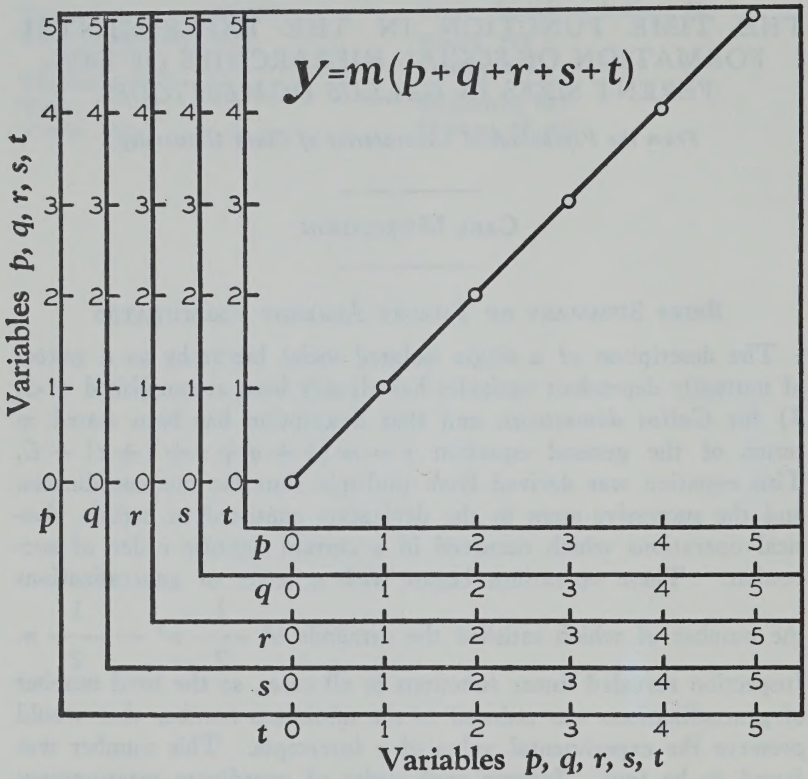


FIGURE 1

$(y = mx + b)$
 $m = \tan \text{ of any } \theta$
 $b = \text{any } y \text{ intercept}$
 $x = \text{all five abscissae}$
 $y = \text{all five ordinates}$

$p = \text{Social Reflex No. 2 in inverse ranks}$
 $q = \text{Social Reflex No. 1 in inverse ranks}$
 $r = \text{social discrimination in inverse ranks}$
 $s = \text{loss of body weight in inverse ranks}$
 $t = \text{Social Reflex No. 3 in inverse ranks}$

and more difficult to understand the contributions of the succeeding papers from this general series of experimental analyses of social variables.

THE NEW PROBLEM

We now come to the much more fundamental and still more general problem of how a series of such equations might be mutually related as time functions in case the derivations have been made from hierarchies of different sizes but with similar restricting conditions in all other respects.

THE SUBJECTS

Five groups of male chicks, consisting respectively of two, three, four, five, and six individuals each, at the age of eight weeks were placed under such conditions that each group was isolated from physical contact with the other four groups. These chicks were kept in remarkable health by a studied diet of all-food mash, scratch grain, green clover, ground oyster shell, salt, gravel, liberal portions of cod liver oil, and abundance of water. It seems unlikely that any all-food mash is sufficient diet for closely confined laboratory animals.

PROCEDURE

Tests were made weekly to determine the time in each group when straight line dominance could be detected simultaneously in terms of Social Reflex No. 2 and Social Reflex No. 1.

EMPIRICAL RESULTS

These time determinations were established empirically for the five groups in order at the 15th, 19th, 22nd, 26th, and 32nd weeks

TABLE 1

PROPORTIONAL AVERAGE DISTANCE RUN IN THE SOCIAL REFLEX RUNWAY BY EACH MEMBER OF EACH PAIR IN GROUP *White* DURING EACH OF THE FINAL SEVERAL WEEKS PRECEDING THE DETECTION OF STRAIGHT LINE DOMINANCE

Pair	12	13	14	15
White-Black	10-0	9-1	10-0	10-0

TABLE 2

PROPORTIONAL AVERAGE DISTANCE RUN IN THE SOCIAL REFLEX RUNWAY BY EACH MEMBER OF EACH PAIR IN GROUP *Black* DURING EACH OF THE FINAL SEVERAL WEEKS PRECEDING THE DETECTION OF STRAIGHT LINE DOMINANCE

Pair	15	16	17	18	19
White-Black	6-4	4-6	6-4	7-3	8-2
White-Red	7-3	6-4	4-6	5-5	7-3
Red-Black	6-4	9-1	7-3	8-2	8-2

TABLE 3

PROPORTIONAL AVERAGE DISTANCE RUN IN THE SOCIAL REFLEX RUNWAY BY EACH MEMBER OF EACH PAIR IN GROUP *Red* DURING EACH OF THE FINAL SEVERAL WEEKS PRECEDING THE DETECTION OF STRAIGHT LINE DOMINANCE

Pair	19	20	21	22
Black-White	0-10	2-8	0-0	8-2
Green-Red	0-10	9-1	10-0	9-1
Red-White	9-1	9-1	10-0	10-0
Green-Black	4-0	10-0	10-0	10-0
Green-White	5-5	9-1	10-0	9-1
Red-Black	10-0	10-0	10-0	10-0

TABLE 4

PROPORTIONAL AVERAGE DISTANCE RUN IN THE SOCIAL REFLEX RUNWAY BY EACH MEMBER OF EACH PAIR IN GROUP *Green* DURING EACH OF THE FINAL SEVERAL WEEKS PRECEDING THE DETECTION OF STRAIGHT LINE DOMINANCE

Pair	22	23	24	25	26
Black-White	3-1	10-0	10-0	10-0	10-0
Green-Red	9-1	3-7	2-8	8-2	8-2
Red-White	10-0	9-1	7-0	10-0	10-0
Yellow-Black	10-0	3-7	2-8	10-0	10-0
Green-White	10-0	10-0	9-1	10-0	10-0
Red-Black	10-0	8-2	2-8	7-1	10-0
Yellow-White	10-0	10-0	5-0	10-0	10-0
Green-Yellow	2-8	5-5	8-2	6-4	7-3
Green-Black	10-0	9-1	6-4	10-0	10-0
Yellow-Red	8-2	6-4	7-3	8-2	9-0

TABLE 5

PROPORTIONAL AVERAGE DISTANCE RUN IN THE SOCIAL REFLEX RUNWAY BY EACH MEMBER OF EACH PAIR IN GROUP *Yellow* DURING EACH OF THE FINAL SEVERAL WEEKS PRECEDING THE DETECTION OF STRAIGHT LINE DOMINANCE

Pair	26	27	28	29	30	31	32
Black-White	0-7	1-5	9-1	3-0	9-1	0-2	9-0
Green-Yellow	10-0	10-0	10-0	9-1	4-0	9-1	9-1
Red-White	8-2	8-2	9-1	8-1	7-3	9-1	10-0
Black-Yellow	5-5	2-0	4-0	3-0	3-0	2-0	9-1
Green-White	10-0	7-3	9-1	9-1	10-0	10-0	9-1
Black-Blue	2-2	2-1	10-0	1-0	9-1	10-0	10-0
White-Yellow	3-7	5-0	1-0	1-0	4-0	2-0	9-1
Green-Red	7-3	7-3	6-4	6-4	6-4	4-6	9-1
Blue-White	4-6	6-4	1-1	10-0	9-1	6-4	8-2
Red-Yellow	10-0	10-0	10-0	9-1	8-2	10-0	9-1
Red-Black	10-0	9-1	9-1	9-1	10-0	10-0	10-0
Green-Blue	9-1	7-3	7-3	9-1	9-1	6-4	7-3
Green-Black	10-0	10-0	9-1	8-2	8-2	7-3	7-3
Red-Blue	10-0	9-1	10-0	10-0	4-6	10-0	8-2
Blue-Yellow	4-6	1-0	1-0	9-1	8-2	9-1	9-1

after birth. The empirical data are exhibited in tabular form in Tables 1-5. As soon as straight line dominance was detected simultaneously by the two methods, experimentation ceased with that particular group.

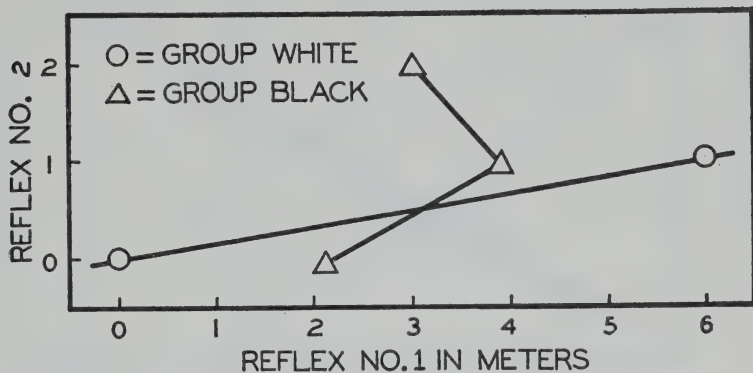


FIGURE 2

SOCIAL REFLEX NO. 2 AS A LINEAR FUNCTION OF REFLEX NO. 1 AT THE 15TH WEEK IN GROUP *White* AS CONTRASTED WITH THE SIMULTANEOUS SITUATION IN GROUP *Black*

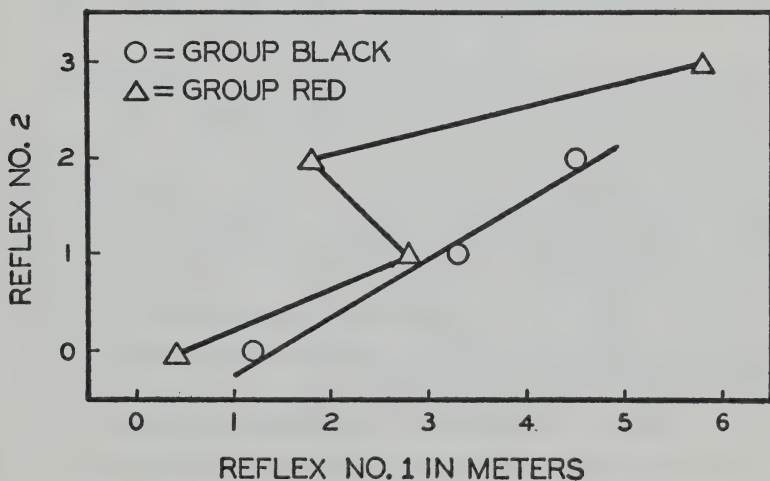


FIGURE 3

SOCIAL REFLEX NO. 2 AS A LINEAR FUNCTION OF REFLEX NO. 1 AT THE 19TH WEEK IN GROUP *Black* AS CONTRASTED WITH THE SIMULTANEOUS SITUATION IN GROUP *Red*

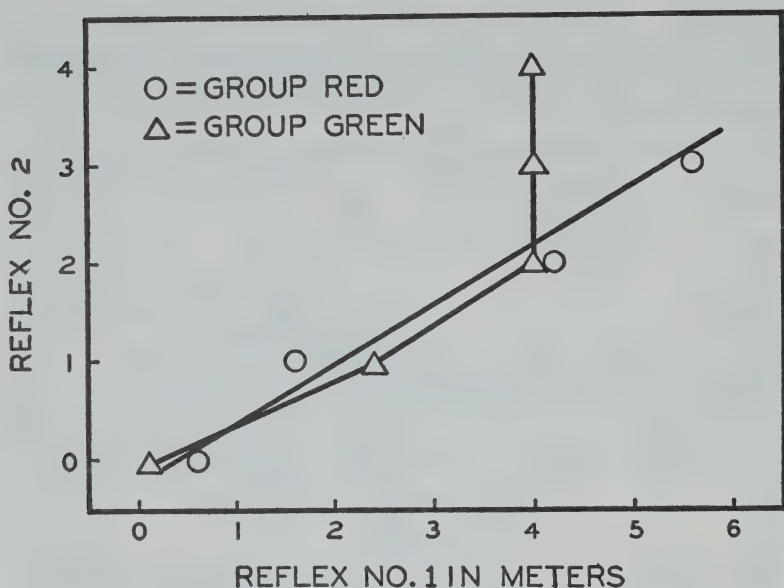


FIGURE 4

SOCIAL REFLEX NO. 2 AS A LINEAR FUNCTION OF REFLEX NO. 1 AT THE 22ND WEEK IN GROUP *Red* AS CONTRASTED WITH THE SIMULTANEOUS SITUATION IN GROUP *Green*

GRAPHICAL ANALYSIS OF THE EMPIRICAL RESULTS

Figures 2-6 exhibit for each group Social Reflex No. 2 as a linear function of Social Reflex No. 1, and also the simultaneous situation in the group that is next larger in size. This is a truly beautiful demonstration of the profound influence brought about by the addition of a single individual to a group of any given size, or by a corresponding elimination. In no case does the next larger size of group even approximate in structure the linear form of the smaller group. The five figures together constitute a perfect demonstration of the progress of the time function.

GRAPHICAL ANALYSIS OF THE TIME FUNCTION

In Figures 7-9 the empirical time determinations are inspected as functions of N , as functions of $\frac{1}{2} N^2 - \frac{1}{2} N$, and as functions

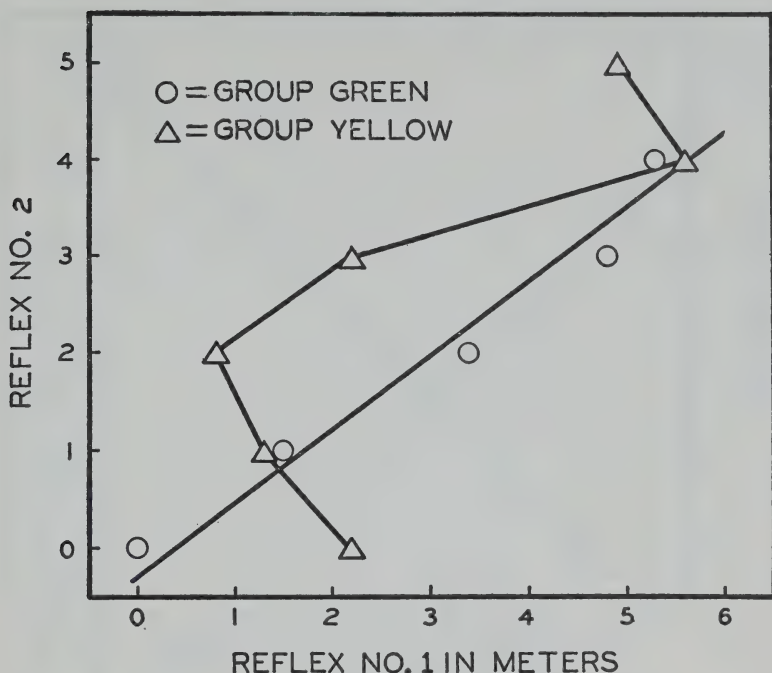


FIGURE 5

SOCIAL REFLEX NO. 2 AS A LINEAR FUNCTION OF REFLEX NO. 1 AT THE 26TH WEEK IN GROUP *Green* AS CONTRASTED WITH THE SIMULTANEOUS SITUATION IN GROUP *Yellow*

of $\frac{1}{2} N^2$. Inspection alone is sufficient to determine that the most uniform fit is when the time determinations are plotted as a function of $\frac{1}{2} N^2$. The arbitrary decision that the unit of time is one week is in itself sufficient to determine most of the variation from true linearity. The function is thus exhibited within the restricting conditions of this experiment.

DERIVATION OF THE GENERAL EQUATION

In Figure 10 are exhibited the possible methods by which the general equation may be derived by simple mathematical analysis.

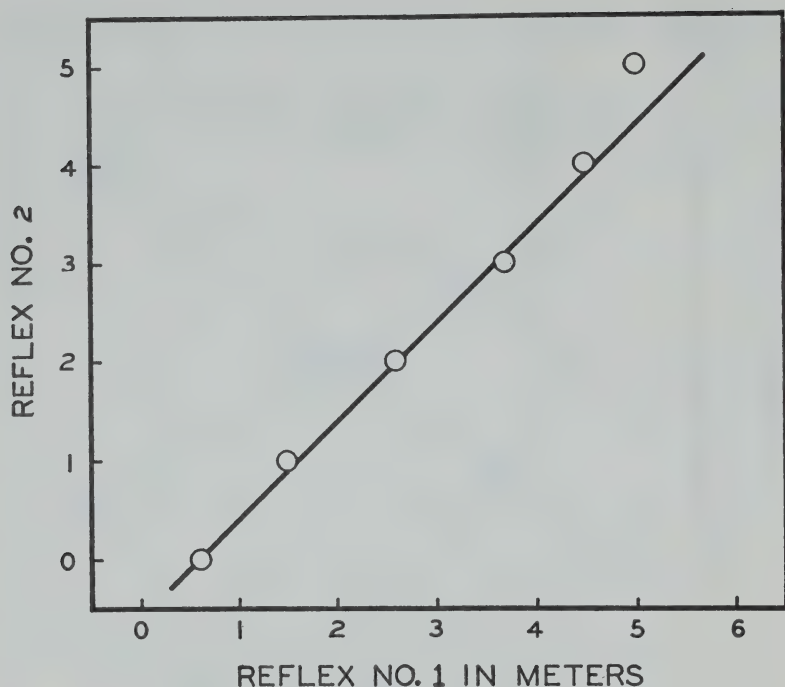


FIGURE 6

SOCIAL REFLEX NO. 2 AS A LINEAR FUNCTION OF REFLEX NO. 1 AT THE 32ND WEEK IN GROUP *Yellow*

It will be observed that the ordinate consists of multiple simultaneous coordinates exhibiting the time variable in each experimental group, while the abscissa consists of multiple simultaneous coordinates exhibiting for each experimental group the units of $\frac{1}{2} N^2$.

Without bothering the reader with the numerous elementary differentials dy_T is defined as follows:

$$dy_T = \frac{\delta y}{\delta t_1} dt_1 + \frac{\delta y}{\delta t_2} dt_2 + \frac{\delta y}{\delta t_3} dt_3 + \frac{\delta y}{\delta t_4} dt_4 + \frac{\delta y}{\delta t_5} dt_5$$

The definition of $dx_{\frac{1}{2} N^2}$ is as follows:

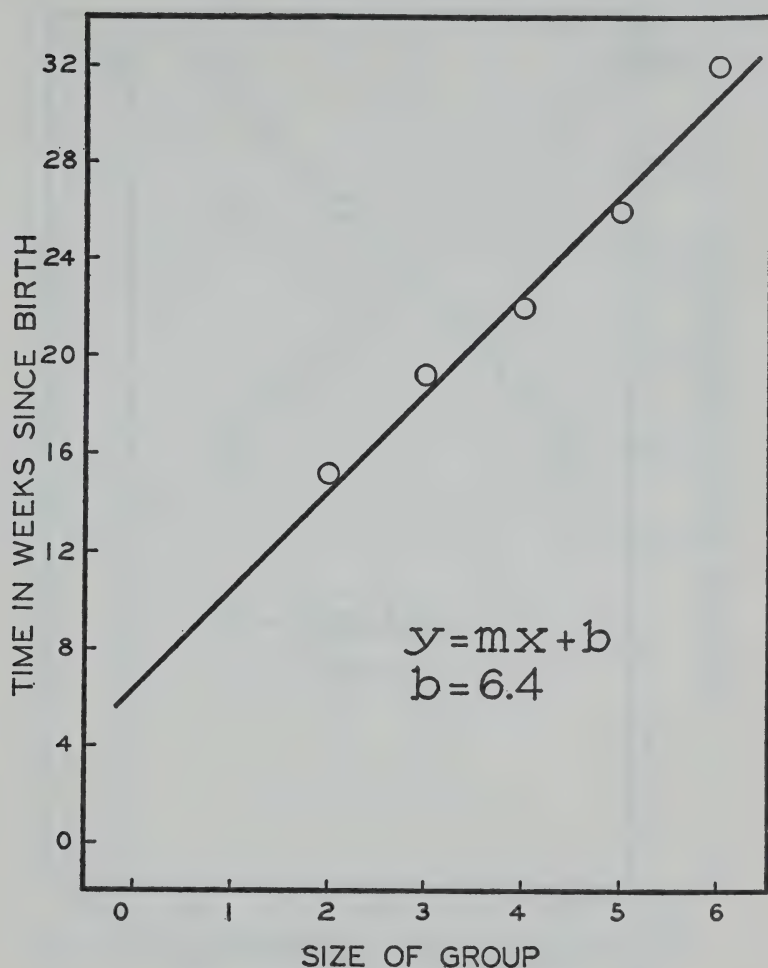


FIGURE 7

THE AGE IN WEEKS OF EACH GROUP AT THE MOMENT OF ESTABLISHMENT OF
STRAIGHT LINE DOMINANCE PLOTTED AS A FUNCTION OF
THE SIZE OF THE GROUP

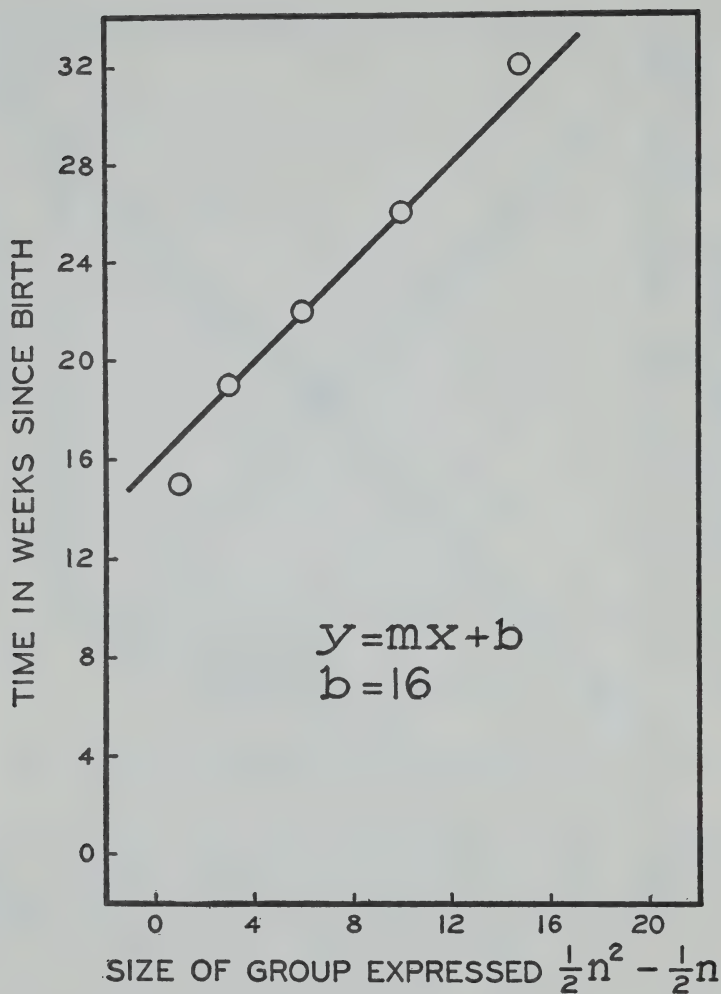


FIGURE 8

THE AGE IN WEEKS OF EACH GROUP AT THE MOMENT OF ESTABLISHMENT OF STRAIGHT LINE DOMINANCE PLOTTED AS A FUNCTION OF THE NUMBER OF POSSIBLE PAIRS IN THE GROUP

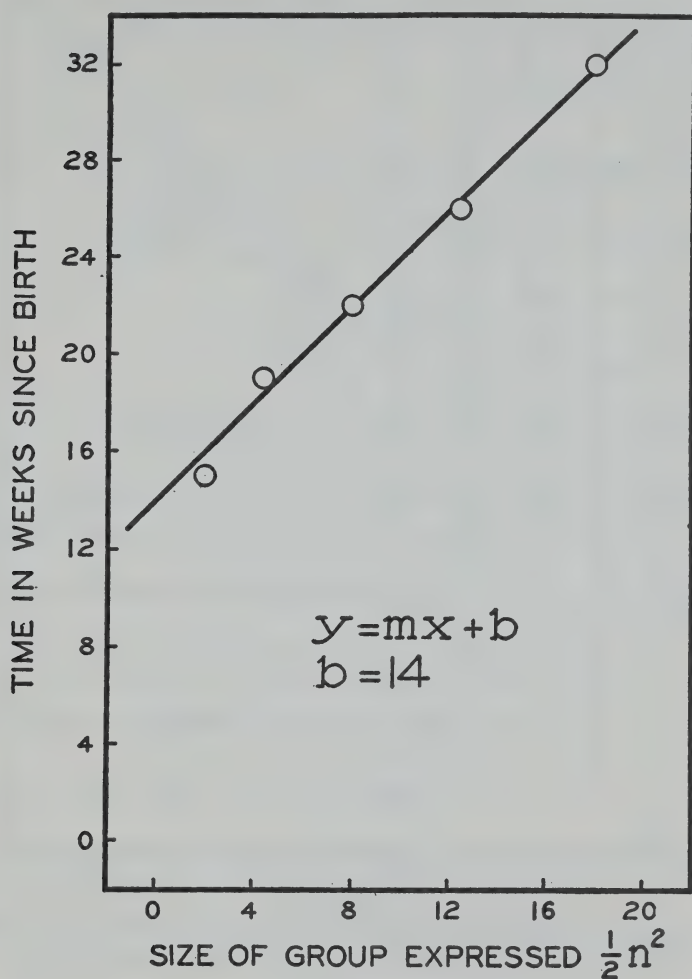


FIGURE 9

THE AGE IN WEEKS OF EACH GROUP AT THE MOMENT OF ESTABLISHMENT OF
STRAIGHT LINE DOMINANCE PLOTTED AS A FUNCTION OF $\frac{1}{2}N^2$

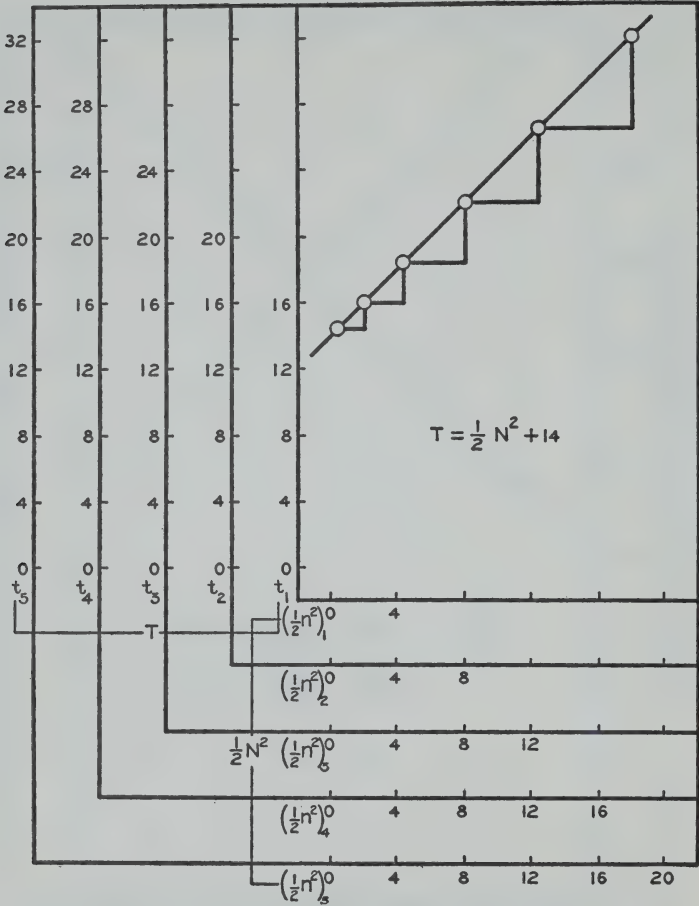


FIGURE 10

THE AGE IN WEEKS OF EACH GROUP AT THE MOMENT OF ESTABLISHMENT OF STRAIGHT LINE DOMINANCE PLOTTED ON FIVE SIMULTANEOUS COORDI-

1
NATES AS A FUNCTION OF $\frac{1}{2} N^2$ PLOTTED ON FIVE
2

SIMULTANEOUS COORDINATES

This method lends itself to the use of partial differential equations and the formal derivation of a general equation.

$$\begin{aligned} \frac{dx_1}{\frac{1}{2}N^2} &= \frac{\delta x}{\delta(\frac{1}{2}n^2)_1} d(\frac{1}{2}n^2)_1 + \frac{\delta x}{\delta(\frac{1}{2}n^2)_2} d(\frac{1}{2}n^2)_2 \\ &+ \frac{\delta x}{\delta(\frac{1}{2}n^2)_3} d(\frac{1}{2}n^2)_3 + \frac{\delta x}{\delta(\frac{1}{2}n^2)_4} d(\frac{1}{2}n^2)_4 \\ &+ \frac{\delta x}{\delta(\frac{1}{2}n^2)_5} d(\frac{1}{2}n^2)_5 \end{aligned}$$

Let $p = \frac{1}{2}n^2$, and let m, n, o, q , and r represent by substitution

the five differential coefficients. Then the derivation of the general equation emerges from the following classical operations:

$$\begin{aligned} dy_T &= \frac{\delta y}{\delta p_1} dp_1 + \frac{\delta y}{\delta p_2} dp_2 + \frac{\delta y}{\delta p_3} dp_3 + \frac{\delta y}{\delta p_4} dp_4 + \frac{\delta y}{\delta p_5} dp_5 \\ &= mdp_1 + ndp_2 + odp_3 + qdp_4 + rdp_5 \\ \int dy_T &= m \int dp_1 + n \int dp_2 + o \int dp_3 + q \int dp_4 + r \int dp_5 \\ y_T &= mp_1 + np_2 + op_3 + qp_4 + rp_5 + C \\ &= m(p_1 + p_2 + p_3 + p_4 + p_5) + C \\ T &= \frac{1}{2}N^2 + C \end{aligned}$$

By the method of backward extrapolation of increment dimensions as defined by the experimental points, one may approach the general equation somewhat more crudely but just as surely:

$$\begin{aligned} T &= (5\frac{1}{2} + 4\frac{1}{2} + 3\frac{1}{2} + 2\frac{1}{2} + 1\frac{1}{2} + \frac{1}{2} + 0) + C \\ &= \frac{1}{2}N^2 + C \end{aligned}$$

Direct substitution of the dimensions of any increment and of the y intercept in the rational slope intercept equation will bring about the emergence of the same fundamental equation:

$$y = mx + b$$

$$y_T = m \left(\frac{1}{2} N^2 \right) + b$$

$$T = \frac{1}{2} N^2 + C$$

If the general equation $y = m(p + q + r + s + t) + C$ is plotted by substitution as a function in terms of time and $\frac{1}{2} N^2$, there will emerge again

$$T = \frac{1}{2} N^2 + C$$

SOME DEDUCTIONS FOR SOCIAL THEORY

If the general equation be applied to larger numbers there will be exhibited some startling restrictions to any social theory of the structure of large groups. An experimental group of one thousand animals would require approximately ten thousand years for the organization of straight line dominance. A small group of ten animals would require about fifteen months, while a group of twenty animals would require about four years. As far as *Gallus domesticus* is concerned it is safe to conclude that a group of twenty animals is about the largest size in which a perfect hierarchy may develop during normal life. In case the experimental group is made considerably larger than twenty, it seems reasonable to predict that more than one hierarchy will be formed. Such hierarchies would probably influence each other very profoundly, but such influences would need to be identified and measured by methods very different from any we have devised so far. It is believed that a study of such influences will involve an analysis of the kind of stuff which at a far more complex level is spoken of loosely as *society* (6).

SUMMARY

Five groups of animals, *Gallus domesticus*, consisting respectively of two, three, four, five, and six individuals each, were isolated at eight weeks of age and tested weekly for the formation of straight line dominance. The ages at which such hierarchies were completed in each group were found to be 15, 19, 22, 26, and 32 weeks respec-

tively. By graphical analysis these time determinations are found to be linear functions of $\frac{1}{2} N^2$. By the use of multiple simultaneous coordinates and partial differential equations the formal derivation is achieved of the general equation $T = \frac{1}{2} N^2 + C$. By extrapolation deductions can be made from this equation concerning the theory of social organization in large groups.

CONCLUSIONS

There is reason to assume that a similar experiment done with adults would result in the equation $T = \frac{1}{2} N^2$, and that the constant of integration would be reduced to zero.

It may surprise some to learn that T is a function of $\frac{1}{2} N^2$ instead of $\frac{1}{2} N^2 - \frac{1}{2} N$. The only explanation that can be offered now is that an increasing number of pairings is an increased social distraction and that this social distraction from the grim business of dominance is described accurately by the equation $SD = \frac{1}{2} N$.

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NEUROTICISM IN MARRIAGE:
IV. HOMOGAMY
V. SUMMARY AND CONCLUSIONS*

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IV. HOMOGAMY
The Scale as a Whole

The degree of similarity between husband and wife in total neurotic score is naturally a value of great interest. It amounts to $.27 \pm .05$, and is thus of the same low but definite order as that characteristic of physical measures (Pearson, 3¹) but lower than that for intelligence (Willoughby, 5). The regression lines are reasonably rectilinear, and η 's were consequently not computed. There is nothing in the present data from which the causes of this association could be determined, although these would be of great importance.

A measure of interest, but somewhat doubtful significance, for the homogamy correlations is "unique burden," i.e., the variable consisting of the number of items of maladjustment not shared by the spouse. Since this is statistically equivalent to the result of subtracting the same number (maladjusted items shared by both, or "common burden") from both variates in the homogamy correlations, the effect must of course be to lower the coefficient. It becomes, however, negative to the same extent that the total coefficient was positive, viz., $-.28 \pm .05$.

By an item of "partial agreement" we may understand one in which one spouse succeeds in predicting the response of the other, but the second fails to predict that of the first. The variable comprised by the number of these items is thus one measure of "insight," in the sense given above (Chapter III). The homogamy in this variable is $.35 \pm .05$. That in estimates of difference as measured by the number of items checked by the spouses is .60; this, however, is somewhat influenced by the fact that since both are estimating a real difference, the estimates are correlated with this difference and so with each

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¹References appear in Section I.

other. The correlations with the real differences are .52 for the husband and .64 for the wife; partialling them out, we obtain $.41 \pm .05$ for the homogamy in estimate of difference when the difference is held constant. This appears to constitute a measure of homogamy in "insight" in the sense of ability to detect the emotional habits of the spouse.

Homogamy in the direct measure of insight, as defined above (Chapter III), has the inconsiderable value of $.09 \pm .05$. An analysis of this to determine the effect of this correlation of the neuroticism of imputer and imputee reveals suggestive additional information, but nothing of unquestionable significance.

The total homogamy coefficient in insight is not affected at all by the partialling out of the neuroticism of husband, and only to the extent of a reduction of .006 by similarly eliminating that of the wife. When both are partialled out, however, it rises by .02. The total correlation between the insight and the neuroticism of the husband is .26 and that for the wife is .36, confirming the finding reported elsewhere (Chapter III) that neuroticism facilitates insight, especially in the wives. The partialling out of the insight of the spouse from these correlations can of course have no conceivable effect upon their size, but the partialling out of the spouse's neuroticism, which is being estimated, might have such an effect. These partials are

$$r_{13.4} = .25$$

$$r_{24.3} = .37$$

where variable 1 = husband's insight, 2 = wife's insight, 3 = husband's neuroticism, 4 = wife's neuroticism. That is, the partialling out has not had the suspected effect. r_{14} and r_{23} in the above terminology, the correlations between insight of imputer and neuroticism of imputee, are .04 and $-.02$ respectively, and both are reduced somewhat by the partialling out of neuroticism of imputer rather more largely, as these low values go, in the case of the wives:

$$r_{14.3} = -.02$$

$$r_{23.4} = -.11$$

There is, of course, very little to be drawn from this cluster of coefficients, with the exception that there is a definite association between insight and neuroticism of the imputer, especially in the case of the wives. The probable errors of the coefficients are about .05. The latter are given, however, for their possible suggestive value,

and it may be that more sensitive techniques would reveal problems of some interest in this region.

The modified measure consisting of the percentage of items in which "insight" was associated with "normality" shows a homogamy of $.38 \pm .05$, and the corresponding one in which "insight" is associated with "neuroticism" one of $.22 \pm .05$. For these modified measures partial correlations have no definite meaning, since the measure *HNI*, the percentage of items in which the husband is himself maladjusted and also senses correctly the wife's maladjustment, is by hypothesis a function of *HN*, the number of items in which the husband is maladjusted; in similar fashion *HnI*, the percentage of items in which the husband is not maladjusted, and senses correctly the wife's maladjustment is a somewhat more complicated function of *HN*. It is therefore uncertain what meaning could be attached to such a partial coefficient as $r_{HNI.WNI.HN}$.

The measure of "projection" (see Chapter III) yields a similar low homogamy of $.17 \pm .05$, and the "normal" and "neurotic" modifications as noted above give $.08 \pm .06$ and $.39 \pm .05$ respectively. The reasons given above why partials cannot meaningfully be computed for homogamies in normal and neurotic insight apply equally to computations of partials in normal and neurotic projection. It is evident that there is little to choose between "insight" and "projection," as measures of the appreciation of the spouse's neuroticism, on the basis of statistical behavior. On the basis, however, of relative simplicity in the concepts, "insight" would appear to be the more satisfactory of the two; and from the point of view of possible future work not much would seem to be gained by division into normal and neurotic insight for the purpose of determining homogamy, since such a set-up appears to introduce complications in the ways of interpretation.

The distributions of the so-called common and unique burdens (*HNWN*, *HNW_n*, *HnWN*) are presented here for comparison:

	0	5	10	15	20	25	30	35	40	45	50	55	60
HNWN	12	45	45	18	19	4	3	1	1	1	2	1	
HNW _n		12	17	32	26	19	18	10	9	1	3		1
HnWN	6	6	7	22	22	20	13	13	16	8	7	7	2
	65	70	75	80	85	90	95	100	105	110	<i>M</i>	<i>σ</i>	
HNWN											13.8	9.4	
HNW _n	2	1		1							24.9	13.3	
HnWN			1		1					1	30.5	16.9	

As could no doubt have been expected, the common burden is seen to be relatively small, most of the problems being specifically either male or female; of the two latter distributions the larger frequencies encountered in the female appear to corroborate from another angle the general finding of the greater neuroticism of women.

The following homogamies in total neurotic score have been computed for the most frequent sizes of family:

Children	r	N
0	.32	43
1	.34	38
2	— .12	31
3-4-5	.42	15

The problem raised by these coefficients cannot be settled in the present study for lack of sufficient data. It is, however, an exceedingly interesting one in view of a certain amount of evidence (Pearson, 3) that homogamy in certain traits may be a factor in fertility. In the present case the suggestion is that the size of the coefficient of homogamy has a slightly positive relationship with fertility, with a striking exception in the case of the two-child family. There is also a suggestive tendency to parallelism between the magnitudes of the homogamy coefficient and the total neurotic score for the different family sizes; it is possible that the former arises on the basis of the latter.

Homogamy in the Categories

The sub-scales previously described yield in general homogamy coefficients of a very similar order; they may be most succinctly presented in the table on p. 23.

In this table, the double and triple entries refer to the different values possible when the ordinary correlation, using all values, is modified by the subtraction of (1) cases in which one spouse's score is based on less than five cases, and (2) cases in which both spouses' scores are so based; this applies principally to the percentage variates (insight and projection). These double and triple coefficients are arranged in order of decreasing P.E.'s, that is, the successive coefficients become more reliable in respect to the reliability of the component cases and less reliable in respect to the number of cases. At the left side of the table the occurrence of a single or double entry instead of the theoretical triple indicates that there were no cases of the individually more unreliable sort; at the right of the table, in the

	Fa	So	Ph	Pa	Ex	Sx
Total neurotic score	.20	.19	.03	.47	.02	.21
Unique burden	-.28	-.43	-.30	-.14	-.27	-.12
Partial agreement	.14	.18	.17	.10	-.01	.02
Estimation of difference	.20	.29	.26	.18	.24	.34
Insight	.14	.08	.11	.26	.35	.15
Normal	.24	.06	.13	.21	.04	.38
Neurotic	.25	.26	.17	.51	.28	.19
Projection	.04	.04	.20	.37	.46	.60
Normal	.05	.11	.31	.56	.63	.31
Neurotic	.23	.34	.24	-.16	.02	.00
		.03	.05	.09	-.18	.11
	.05	-.04	.08	.38	.10	.41
	.49	.25	.36	.11	.15	.69
	.40		.28	.14	.40	

categories containing few items, the same phenomenon indicates that there were no cases of the individually more reliable sort. The Sex column in particular must be taken as extremely tentative, as (due to zero denominators and other incidence difficulties) the P.E.'s of the insight and projection r 's are often as high as .15. Those of the more populous categories on the left and the simple frequency variates in all categories are normally .05 ($N = 152$).

A few findings from this table are worthy of attention. Husbands and wives tend to be as nearly alike as parent and child in maladjustments concerning parental attitudes, but not alike at all in physical and extrovertive items; social, fantasy, and sex maladjustments yield low positive homogamies. They are dissimilar in every category as to the amount of individual (i.e., not shared) maladjustment, but most so in the Social category. There is low agreement in three categories in the measure "partial agreement," which may be taken as one measure of insight, but none in the other three. The spouses' estimates of the amount of difference present agree to roughly the same (a low) extent throughout the categories, but as indicated above, this agreement is largely to be accounted for by the amount actually present, i.e., the estimates are affected by the common influence of the quantity estimated. Homogamy in insight as here defined is positive and low; broadly speaking, agreement between the spouses tends to be higher on items on which the ascriber tends to be maladjusted himself, than on those on which he tends to be adjusted. Agreement in the projection measure is practically absent; it also tends to be higher for the items associated with maladjustment in the ascriber.

Homogamy in the Items

This caption must be understood in a sense rather different from the preceding. By it is meant the extent to which husband and wife agree in being maladjusted (with slight reference to the case in which both are adjusted) on the same items, i.e., the variables are those referred to above as "common burden," and "unique burden," in terms of specific items. The degree to which an item is a common problem will be indicated by the frequency of the situation $HNWN$ in the total population of 152 couples; the extent to which it is a distinctively male problem by the situations $HNWn$; and the extent to which it is a female problem by the situations $HnWN$; the extent

to which it is not a problem at all will of course be given by the difference between the sum of these and 152. For convenience the items will be kept in categories (see, if desired, the directory of items, section II, p. 24).

Fantasy.

Item	6	11	16	19	21	23	24	26	31	35	39	40	47	51	52	53
HNWN	4	2	35	17	7	20	33	1	19	4	5	6	11	0	9	2
HNWN _n	9	19	33	33	20	19	23	1	32	14	16	28	28	4	17	21
HnWN	7	6	52	30	32	46	56	22	30	25	36	20	33	21	48	22
	55	58	63	64	65	71	73	74	75	76	79	84	85	86	92	97
HNWN	1	5	0	0	1	8	18	7	13	11	9	0	5	9	12	1
HNWN _n	0	10	1	2	4	8	36	13	17	21	19	5	22	20	19	1
HnWN	11	26	20	8	4	17	35	19	14	32	49	23	27	17	47	6
	101	103	104	105	106	108	111	113	114	124	127	129	136			
HNWN	0	0	3	9	0	3	12	18	2	6	4	1	10			
HNWN _n	1	7	2	20	2	14	11	26	7	20	13	10	11			
HnWN	1	5	20	30	7	21	19	21	25	28	31	17	36			
	139	141	142	148	149	151	153	156	158	164	168	174	177			
HNWN	13	5	1	4	5	5	1	1	9	5	3	7	8			
HNWN _n	28	12	9	16	15	12	12	14	9	27	17	15	10			
HnWN	31	21	12	16	28	28	21	8	38	13	19	26	39			
	184	185	186	193	194	197	199	201	202	206	211	214	219			
HNWN	20	0	1	6	2	4	1	22	10	13	0	20	0			
HNWN _n	22	1	7	12	9	23	1	14	21	19	3	36	2			
HnWN	52	12	4	24	45	11	19	38	35	37	4	38	3			
	220															
HNWN	16															
HNWN _n	8															
HnWN	40															

Social.

Item	1	2	3	10	12	13	15	17	18	25	28	30	33	36	41	43	44
HNWN	17	1	47	31	5	13	7	2	30	9	34	24	17	0	4	2	4
HNWN _n	27	9	15	43	31	40	25	23	35	41	26	35	34	11	24	21	19
HnWN	38	30	52	25	41	33	26	21	31	26	40	34	21	10	17	13	47
	57	61	67	70	72	80	83	89	91	94	98	99	100	112	115	116	
HNWN	14	1	0	20	68	35	2	29	35	12	35	7	1	9	12	0	
HNWN _n	25	6	6	35	33	30	14	34	25	26	32	30	6	8	36	3	
HnWN	35	6	3	21	12	53	4	34	42	55	42	26	12	32	28	5	

	119	120	123	126	131	138	140	143	145	150	157	161	169
HNWN	1	8	5	0	1	24	34	1	24	83	4	14	28
HNW _n	3	30	15	15	11	28	43	5	27	29	24	34	46
HnWN	7	29	14	11	15	30	28	11	54	26	23	34	14
	173	175	178	180	181	182	187	195	196	205	207	209	215
HNWN	0	6	28	28	40	8	31	18	35	27	5	13	0
HNW _n	3	35	17	36	19	22	20	12	23	34	19	36	6
HnWN	3	22	41	31	45	20	51	54	42	34	45	16	8

Physical

Item	5	7	9	27	34	37	42	48	49	50	56	60	62
HNWN	4	0	2	1	5	0	7	14	14	10	0	1	11
HNW _n	18	10	4	5	24	5	22	20	19	31	2	3	22
HnWN	21	3	14	22	20	15	33	36	44	27	3	3	24
	66	78	82	87	88	90	93	109	110	117	132	133	135
HNWN	2	13	1	0	12	27	2	6	1	4	0	1	4
HNW _n	12	20	9	2	24	15	15	11	13	13	4	7	4
HnWN	25	34	20	5	27	73	14	27	15	30	2	15	13
	144	152	154	155	160	162	163	166	176	179	189	191	198
HNWN	0	6	2	1	0	6	6	1	2	14	1	2	0
HNW _n	2	16	13	7	5	10	14	13	14	24	4	4	5
HnWN	13	21	14	18	12	24	35	15	9	41	14	16	23
	203	204	209	210	213	216	218	223					
HNWN	0	2	3	1	1	2	0	0					
HNW _n	1	19	11	5	4	3	16	7					
HnWN	8	17	12	4	11	6	8	3					

Parental

Item	4	8	22	45	69	77	81	102	107	122	134	147	159
HNWN	20	1	9	11	2	11	11	1	0	19	0	15	10
HNW _n	16	11	15	21	14	19	20	5	4	14	2	23	27
HnWN	35	17	32	16	18	27	20	7	6	21	5	31	15
	165	188	212	217	221								
HNWN	0	27	3	3	10								
HNW _n	3	28	9	7	16								
HnWN	1	40	5	19	46								

Extrovert

Item	14	20	32	38	46	54	59	96	118	121	146	167	170
HNWN	2	11	20	8	6	7	7	27	0	26	13	17	0
HNW _n	11	25	33	19	16	43	14	19	9	23	27	25	11
HnWN	24	53	59	33	35	16	28	39	14	40	25	37	36

	183	190	192	200
HNWN	21	31	4	3
HNWn	33	41	17	18
HnWN	32	39	32	39

<i>Sex</i>										
Item	29	68	95	125	128	130	137	171	172	222
HNWN	1	6	8	2	1	12	4	1	5	4
HNWn	6	24	16	5	10	24	9	7	13	15
HnWN	19	13	33	7	6	21	7	23	9	24

The three types of situation have the following distributions, by category (to be read: a "common burden" of 32 specific items was borne by 0—4 couples, etc.):

Couples	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Fantasy																	
HNWN	32	20	9	5	4	0	1	1									
HNWn	19	10	15	12	11	5	3	2									
HnWN	5	7	6	8	12	8	8	9	1	5	2	1					
Social																	
HNWN	18	10	6	3	4	5	5	4	1	1					1		1
HNWn	3	7	4	7	7	9	10	7	4	1							
HnWN	3	4	8	3	6	8	10	2	6	3	5	1					
Physical																	
HNWN	33	6	7	0	0	1											
HNWn	12	9	11	7	7	0	1										
HnWN	6	5	9	7	8	4	3	2	2							1	
Parental																	
HNWN	8	1	5	2	1	1											
HNWn	3	3	3	4	3	2											
HnWN	1	4	0	5	2	1	2	1	1	1							
Extrovert																	
HNWN	5	4	2	1	2	2	1										
HNWn	0	1	3	5	1	3	2		2								
HnWN	0	0	1	1	1	2	3	6	1	0	1	1					
Sex																	
HNWN	6	3	1														
HNWn	0	4	2	2	2												
HnWN	0	4	1	1	3	0	1										

Taking 25 couples as a convenient boundary of significance, the following are the most significant common problems:

- Fantasy*— 24 afraid of falling (33c)
 16 worry over humiliation (35c)
Social— 205 thought critical (27c)
 169 enjoy social gatherings (28c)

- 178 disturbed by criticism (28c)
- 180 enliven dull party (28c)
- 89 be by yourself (29c)
- 18 social leader (30c)
- 10 introductions at party (31c)
- 187 public speaking difficult (31c)
- 28 feelings hurt (34c)
- 140 like companionship (34c)
- 80 talk and regret (35c)
- 91 allow crowding (35c)
- 98 stand criticism (35c)
- 196 help in accident (35c)
- 181 self-conscious with superiors (40c)
- 3 worry, possible misfortunes (47c)
- 72 nonconformity (68c)
- 150 meet important person (83c)
- Physical—* 90 tears (27c)
- Parental—* 188 mother dominant (27c)
- Extrovert—* 121 intellectual vs. athletic (26c)
- 96 like responsibilities (27c)
- 190 like puzzles (31c)

Taking 30 couples as a convenient boundary of significance, the most important masculine problems are the following:

- Fantasy—*
 - 16 worry over humiliation (33c)
 - 19 day-dreams improbable (33c)
 - 31 ideas banish sleep (32c)
 - 73 day-dream frequently (36c)
 - 214 slow in decisions (36c)
- Social—*
 - 80 talk and regret (30c)
 - 99 difficulty in making friends (30c)
 - 120 contradicting habit (30c)
 - 12 can't dismiss salesman (31c)
 - 98 stand criticism (32c)
 - 72 nonconformity (33c)
 - 33 books more interesting (34c)
 - 89 be by yourself (34c)
 - 161 hesitate in recitation (34c)
 - 205 thought critical (34c)
 - 18 social leader (35c)
 - 30 keep in background (35c)
 - 70 late, rather stand (35c)
 - 175 dislike writing about self (35c)
 - 115 make friends easily (36c)
 - 180 enliven dull party (36c)
 - 209 interested, people met (36c)
 - 13 difficulty starting conversation (40c)
 - 25 interesting, meeting people (41c)
 - 10 introductions at party (43c)
 - 140 like companionship (43c)
 - 169 enjoy social gatherings (46c)

<i>Physical—</i>	50 talk in sleep (31c)
<i>Extrovert—</i>	32 leave tasks unfinished (33c)
	183 rather work indoors (33c)
	190 like puzzles (41c)
	54 tire, amusements (43c)

Taking 40 couples as a convenient boundary of significance, the following are the most important feminine problems:

<i>Fantasy—</i>	220 confident about abilities (40c)
	194 frightened by lightning (45c)
	23 nervous (46c)
	92 dread snake (47c)
	52 feelings alternate (48c)
	79 discouraged (49c)
	16 worry over humiliation (52c)
	184 lack self-confidence (52c)
	24 afraid of falling (56c)
<i>Social—</i>	28 feelings hurt (40c)
	12 can't dismiss salesman (41c)
	178 disturbed by criticism (41c)
	91 allow crowding (42c)
	98 stand criticism (42c)
	196 help in accident (42c)
	181 self-conscious with superiors
	207 angry, let go (45c)
	44 lose temper (47c)
	187 public speaking difficult (51c)
	3 stage fright (52c)
	80 talk and regret (53c)
	145 self-conscious in recitation (54c)
	195 self-conscious over appearance (54c)
	94 self-conscious at work (55c)
<i>Physical—</i>	179 rested in morning (41c)
	49 stand smells (44c)
	90 tears (73c)
<i>Parental—</i>	188 mother dominant (40c)
	221 love vs. hate for family (46c)
<i>Extrovert—</i>	121 intellectual vs. athletic (40c)
	20 get turned around (53c)
	32 leave tasks unfinished (59c)

The items of the whole scale exceeding the very high boundary of 50 couples are:

<i>Fantasy—</i>	<i>HnWN</i>
	16 worry over humiliation (52c)
	184 lack self-confidence (52c)
	24 afraid of falling (56c)
<i>Social—</i>	<i>HNWN</i>
	72 nonconformity (68c)
	150 meet important person (83c)
	<i>HnWN</i>

	187 public speaking difficult (51c)
	3 stage fright (52c)
	80 talk and regret (53c)
	145 self-conscious in recitation (54c)
	195 self-conscious over appearance (54c)
	94 self-conscious at work (55c)
<i>Physical—</i>	<i>HnWN</i>
	90 tears (73c)
<i>Extrovert</i>	<i>HnWN</i>
	20 get turned around (53c)
	32 leave tasks unfinished (59c)

The most important single measure of homogamy in the data dealt with is that for total neurotic score, which may be taken in round numbers as .3. While the investigation was not planned primarily as a study in homogamy, and there are therefore no definite clues to the source of such a figure, we may observe that in a number of ways appreciation of emotional maladjustment in the mate has shown a low but unmistakable correlation with maladjustment in the ascriber himself. It may not be, therefore, too futile a speculation to suppose that to some degree potential spouses are attracted to each other through empathic appreciation of and identification with each other's outlook and problems. Special studies directed to the determination of this point would be of great interest.

The homogamy in the measure termed "unique burden" is difficult to interpret, and this measure is not recommended for further study. That in our so-called "partial agreement" is likewise open to objection, but when taken together with homogamy coefficients in "insight" and "projection" helps to establish the conclusion that there is also marital similarity in the capacity for appreciation of neuroticism in the spouse. The maladjustment of the imputer appears again definitely to have an effect upon efficiency in imputing, particularly in the case of the wives. Most of the specific problems appear to be peculiar to either husband or wife, the so-called "common burden" being small. The homogamy coefficients in the categories reflect approximately the state of affairs for the scale as a whole, being predominately positive with the exception of the ambiguous coefficients in the measure called "unique burden." The most important common problems, as measured by the number of couples sharing them, seem to be very largely of a social nature, as are also the characteristically masculine ones. The wives, however, have a significant proportion of specific problems of the type called Fantasy. It is possible that

this is partly a consequence of the differing numbers of items in the categories, although work on the properties of the scale itself suggests that these two categories are most representative of the trait of "neuroticism" itself.

V. SUMMARY AND INTERPRETATION

It is desired to gather together in as compact a form as possible the principal findings of the study as a whole:

Wives are consistently more neurotic than husbands, a sex difference consistent with previous findings; the amount of the difference is greater in the present than in preceding series, suggesting, but of course not proving, that the marriage situation bears more heavily upon the wife than upon the husband.

Married persons are in general more neurotic than presumably comparable college populations. It is not possible to conclude from these data anything definite regarding the effect of marriage per se, since the influence of age has not been discounted. Investigations (not presented here) upon unmarried groups of the same educational level agree with the present study, however, in suggesting a curvilinear relationship of neuroticism with age in women, but no relationship in men. Although this should be regarded as the beginning rather than the end of a problem, the suggestion from it is that increased neuroticism in men is due to something connected with the marriage situation, while in women it is due to both marriage and some factor (an endocrinal one suggests itself) associated with age. There is also a suggestion, which small numbers make it impossible to verify, that neuroticism is related to number of children, probably in opposite directions in the two sexes.

The sex differences are very constant, recurring in about the same proportions in a number of sub-groups based both on classifications of subjects and content of items. The latter groupings yield marked differences among themselves, as do the separate items, but these do not lend themselves to any compact and comprehensive generalization. There are, however, enormous differences between the percentages of incidence for the separate items, and a considerable number of them prove to be characteristic of sex, conjugal condition, or both.

The study of appreciation of neuroticism in the spouse is beset with complications, and the results cannot be considered satisfactory at all

points. However, it may be concluded tentatively that the wife is somewhat inferior to the husband in insight of this sort when maladjustment on her own part is involved, but not otherwise; but that the average "efficiency" is by no means great (about 25%). It also appears that the wife whose own maladjustment is involved, besides making more successful judgments as to the maladjustment of her spouse also makes more "errors" than does he—that is, she makes more imputations of neuroticism, both "correct" and "incorrect." In general, however, it appears that femininity and maladjustment are both slightly favorable to the detection of maladjustment in the spouse, and these differences are more or less reflected in the subgroupings of items.

There is definite homogamy of a low degree (.27) in total neurotic score, and this is more or less reflected in the item groups; it may be conjectured that persons of the same degree of maladjustment tend to associate to about the same extent as do persons of the same degree of physical size—although the possibility of convergent development in the marriage situation should not be forgotten. There is also a low degree of homogamy in the various measures of appreciation of neuroticism in the spouse.

Of the various findings thus obtained and examined, it appears clear that the most significant are the simplest. Nothing has appeared in the course of the investigation to controvert the soundness of the principle (derived, perhaps, from the "law of parsimony") that specific traits or items are of significance only as they are bearers or channels of more general attitudes, in this case "neuroticism"; and the significance of the categories of items appears to reside chiefly in the fact that some are very much more representative of this attitude and of the scale as a whole than are others. It becomes possible, therefore, to derive an instrument of a more homogeneous sort for the improved registration of this attitude as a whole (5) and thereafter to disregard item and category analysis. The single variable thus achieved can now be applied to the study of the marriage situation itself and to its concomitants. The resulting problems can be conveniently grouped in two series²: (1) the effect of marriage upon neuroticism, and (2)

²Two subsidiary but important variables deserve investigation in the above program by reason of their therapeutic bearings, viz., (1) the amount of difference between spouses, and (2) the amount of appreciative ability present on both sides. The relationships of these to the problems outlined above are presumably the same as for the major variables.

the effect of neuroticism upon marriage. The type problem of the first series is whether marriage increases or decreases neuroticism, and this is complicated by the additional variable of age; it can probably be attacked best by matched controls, although the probability must be recognized that spinster- or bachelorhood at ages normally accompanying marriage implies the presence of still other uncontrolled and probably important variables. The second series of problems involves the elaboration of satisfactory evaluative measures for marriage itself; having these, very important possibilities are opened up in the direction of mental hygiene, mate and child adjustment, and personality formation in the child.

KEY TO THE DATA

HN—"husband neurotic" (i.e., indicates maladjusted response)
WN—"wife neurotic" (i.e., indicates maladjusted response)
HC—"husband checks" (i.e., records belief that a difference exists)
WC—"wife checks" (i.e., records belief that a difference exists)

a—*HN* (only)

b—*WN*

c—*HC*, *WC*

d—*HNHC*, *WNWC*

e—*WC*

f—*HNHC*

g—*HCWN*

h—*HNWN*

i—*HC*

j—*HNWC*

k—*WNWC*

l—*HNWC*, *WN*

m—*HN*, *WN*

n—*HNHC*, *WC*

o—*HCWN*, *WC*

p—(no *N*, no *C*)

SOCIAL
Couples

Items	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Items 1.....

..... 81

SOCIAL
Couples

112	ppcapfph	pbkpphpo	iapbpbppp	piokppppo	iaplhpppp	pphpbpbmk	pkfpeoip	pkplopppo	pgpppbppp
115	ponpieja	apkatpfk	pkmpbpbnp	fpmpogep	gpgganpbb	pkmpppnke	pimpafppp	pmpfmbolp	apppmpaon
116	pppabppp	ppapppppp	pbepbpbpp	ppppppppp	ppppppppp	epppppppp	pkppppppp	ppppppppp	pppijppppp
119	ppppppffp	ppppppppp	ppppppppp	ppppppppp	ppppppppp	ppppppppp	pkppppppp	ppppppppp	ppppppppp
120	ppppppppm	ppkppppkl	ppfkppnpd	ppoaopppb	dfefekbb	flppnnapp	aapbbegp	npnanpppp	pphpiibpf
123	pfppppppp	pkppppppl	ppabppppf	ppppppppb	apfbffep	ppabppbpb	ppppppppp	pkfpaapp	pbvpijppf
126	pgppppopp	ppapppppa	apppppppp	epfppffip	ippffpppp	ppijppfffb	ppppppppp	paipppppa	pppppabpb
131	pppijppbp	ppbpbpppp	ppapppppf	ppfppppkp	pbfeppppp	epppppppb	ppppppppp	pbpfppppp	apppppppp
138	ppffflppm	plkgppinp	ppfappalf	apnppppkp	dphpkaaa	pkhkfpppb	ppbapppma	pkadpppep	mmppphbmb
140	phlppplfa	kabgpijfb	bbmbamffa	malnkmnbp	kopejabb	ppmpffmpn	hbmpaahpm	emmpbbpb	paplijpg
143	ppppppapp	ppppppbja	pbkpppppp	ppppbpbpp	ippffpppp	pphpbpppp	pkppppppp	ppppppppp	pkppkppppp
145	aiapoobhob	pfpmkiolp	fbbbobppp	fknmoabpp	hapfholmm	opmkpabak	fpojaakgf	bbppppmkbp	kppbfbmb
150	aolammloa	mammajbmb	nahbbmmnp	npfomlllb	moipmmmmm	mbmmunomkb	mahmpmpmm	mmppmmhlb	mmffbamgl
157	pfppppbfp	ppkppppma	abgkppfpf	kpjiipppb	lppffbpbp	kkappkppp	ppbbbiipn	pkpfppppf	ppmppppapp
161	pipioiook	ipfoppggp	likbobppi	fnpjonkpp	oaatkolhm	ppbkpeppp	apcapakff	pmiipbpf	epajpfbkf
169	pmlpmpnfa	kfmpepmp	ppfbphaan	maelkmbfa	akampjamk	mmabffmpn	ppmpfapmn	pampbbal	lepampppp
173	ppibppppp	ppppppppp	ppppppppp	ppppppppp	pppijpppp	ppppppppp	pkppppppp	ppppppppp	ppppppppp
175	ppkpgbpa	ppphppbbo	pplpaeppp	ppppaaaba	bipappppp	abjlpbage	ppmaaaapa	abfijapnp	apppapppn
178	ipakpmbip	kpkkppmmm	pahlmbppe	fpomppcpb	iipmhilip	kkpjpgemp	afkppmopb	akgmoppap	logpeoabk
180	pogppelol	ppmpopnkmp	mmnonmkbf	lapgkplpb	hikidbpbm	pbatmnmjm	kboppapfn	embfmkap	mpmpmiaof
181	pihgobmol	plmmkpdlm	pakbpbppm	lpfmhpeab	hpgahplam	pkmokkbpm	amofpbf	empakmkbp	blpikhmkm
182	pplipmpk	kpiipfnkb	pfpbpapfl	pppokppmp	oipppppap	ppappppbi	apmpfpokp	pppappppi	pppppiagk
187	aopoooghoh	fflbpnofi	mohgikppp	afcaommpk	hipohpahh	opmokembk	pogaamkbp	mbmipmkmp	omppbfbkm
195	biakppdp	ppkpppalg	pbkbbppn	pphophbbp	oiatiibga	hpmgpdppk	pggobppop	pbppopkep	kgapkomma
196	polpobfga	bhhkammm	bbpipappp	kkfbkbpmp	mpfkpmkb	ppmpjjbbh	mmmmnpkam	pakaobkmk	bmppphbpb
205	peonpbmpk	mpkhfmpkm	ppfkpbmaf	dkaapoppj	ohlappmp	babpphbpm	hbmabmom	apffappah	pppapobmk
207	ppnbnbaaa	ppppppfka	ppfkpbppp	pkhopogbp	obfeikpep	oagponbpb	bkppgggpp	ppppppiaa	lkpppokpf
209	pppppppfp	kpfpjbbdp	mpmpmpkaap	appaombpa	oppfpppb	pkmpppppp	nmppmpapn	pppiampbp	pppaaiapb
215	ppppppppp	ppppppppk	ppppppppp	kpijppppa	pppgappkp	pkppppppp	ppppppppp	ppppppppp	ppppppppp

SOCIAL
Couples

Items 82.....

..... 152

1	ppajipbap	nfpbpfom	ppbinamep	penlplnbn	ppbpbpbm	mnbakbpb	emmlncnp
2	ekpppppp	ogikpjp	ppppcpbp	jcoagcob	feappip	pnfppkppp	oppiepop
3	ppdagmbb	hobhmoqd	popkpopbm	mmaokombk	ppilgopip	mpbmamabh	bpnompgpp
10	pkapbbpb	nimmppff	pmplpbanm	glnpnmnm	fjimfbppp	bpjipikj	lfnjpnkfa
12	bpiipikpb	jobmoipo	pnoppphfp	pmpaatcpn	gkbppppea	opojbpkop	geocopfki
13	eoppkpb	fbllkbbk	pnbaaafj	fnnpfbap	appjokppp	nbbpppke	npnoipoba
15	ekbpbppk	epjbppe	oppbbmna	pmpppbnp	pppfpbppe	pkataibe	enbnpipki
17	epenetpp	ceppbep	ppppaipnp	ieipppaoa	iepppfapp	ipfiphppk	kopnnpip
18	popbfmpm	npambkep	pjppfknp	lhnnpbbem	blpppfhae	jpmlnakafj	npnbpoma
25	jofppmfbp	epppaabp	pmppmmanf	annnpnim	pcppapaae	bpnanpnj	npnppeipo
28	hphfnjpm	mholipif	pobpfjpm	agmlhbbmp	pbeepipbp	gmioapekm	kpmokmmgh
30	pkaappmpb	nibgbmk	epppfppp	lannfmno	peomhpppp	apmfekpen	epnlopolm
33	eoofjgppa	gappmjel	nphjcpnp	pnnefbom	pkcbkpkph	mpbpapfpp	ppcijkppi
36	pppppppap	kepppepp	pppppeppp	pgppppabp	ppjpppppp	pppppppkk	ppkppfppp
41	pnkppjppp	oackppkp	popppppkp	jopeppipp	ppecppppp	ppnpbbakl	ppgpfbfpp
43	ppkeppnap	fppppenp	ppppppppp	pppppppip	fppppppep	ppfipampb	ppppppppk
44	pekpfnp	kqgbbeq	pppppjap	jcopocbb	fpebbbkp	ppnpkpbh	opopoekok
57	fpanhobp	fcpbbbk	pppkfppp	fmjbpbbcp	ppppoiopp	apmppepbe	ppnbppoph
61	kppppapp	pppppppp	pppppapp	ipppppabp	ppppppppp	ppppppppp	pppjppip
67	ppppppppp	eppppppp	ppfpppppp	ppppppppp	ppppppppp	ppppppppk	ppppppppp
70	eppappmpp	ligmphpa	kpapppppp	njimpaaa	kgpopaapp	ekjmpiapp	hjmeppipa
72	mpdpbajp	mmpppamk	mmommkamm	gpapfnppm	panmappma	mmmmhmpm	pakpfpppp
80	nhpfhbm	hmpabjpo	bpfbpjbp	ekhpmmij	fmjppkppp	mpopkpaob	okobmjmk
93	ppppppppp	pppppepf	ppppppppp	ppappibpp	fjppppppp	ppppppppk	ppppppppp
89	pkppppabp	nfpbbmg	ppbbnmpjp	jnppebmm	gkgmkppak	mpmpakmpj	fmmhpepbk
91	kkpamgbb	jiaapkp	hmhgppmjp	pfbgmpafh	ipnaapcam	mpmbmbpm	eempopbp
94	okpppppp	kpakbbkk	boppppmm	fkakbpfpa	mkkppkokpp	ppbphiak	hpnnpnp
98	neipnhpb	bhompagk	lobkbeap	jommmpgm	fmeepmbhp	bpheapkm	hpmojakh
99	popjpppp	npphbbp	epppppmnn	pefhabpp	pppbkpppp	ppbpbppp	fnnbpbk
100	ppppppppp	kppppppp	ppppppppp	ppppppppp	pkppppppp	ppppppppp	kpppepppp

Items 1

18 . . .

[illegible]

[illegible]

PHYSICAL Couples

[illegible]

PHYSICAL Couples

[illegible]

Items	1		8						
4	ppppmmmao	pipfbblom	ipphpkank	llpaihbpb	mkpmoabmp	hpppppoooo	kpnppgoop	pkrappimb	pnkbbkoeo
8	pippbbpk	fppfbnpp	qilbpeppo	kparipppp	oppnnpkp	pgepepppa	ppppppppg	ppppppppp	pppppppppk
22	poipnnkph	eoipnknph	gpphpknp	ppppnnpp	ipppnnkp	mpbfnppka	ojppaipoi	ppppppppki	pnobkpepp
45	pipevglpm	pppkpknml	fpphkaanp	pppppppppp	bppagboap	mppppmpbb	pppppbcop	ppppppppp	pbppbojpe
69	ipiepmgip	papeeilbf	gpbappppp	eppppppeip	pihbaonpp	npppfjppp	ppepppppk	ppaaapipp	pppppppppp
77	iagkgafip	gpbepnpnm	paefpmbpa	kabipbbap	mfeppphpp	ppeppppppk	pppabpfpp	ppbpbpppm	pappbpemp
81	pppnlnpjb	onppmipmp	ppmmnpkppj	oaapbbppm	gspofmpap	npbnppppp	npbkppppn	pppappppk	pppppappm
102	pfpppppppp	pppfppppp	pppppppppp	pppppppppb	fppppppppp	pppppppppp	pppppppppp	pppppppppp	pppppppppp
107	pppppppppp	pppppppppp	pppkpppppp	pppppppppp	ipppnkppp	nkpppppppp	pppppppppp	pppppppppp	pppppppppp
122	pbnppmmmob	oppfpnnmm	bpfhpofpl	gmpapmppm	opppppfep	mpppppipk	pppgpppoo	ppmpappkp	pjggofmo
134	pipppppppp	ppbpppppp	pppppppppp	pppppppppk	pppppppppp	pppppppppp	pppppppppp	pppppppppp	pppppppppk
147	pgnkjmmae	oppaknmf	gpphpbppn	kbiipapbb	obtnlbp	mapppopkp	epfpbceop	pppapppped	pmpampemp
159	pnbpijeml	onjpppfip	pfppppfie	opepkpaa	lfppfcpqg	pgppipepp	npmpapbnp	pppipppep	pepppapai
165	pppppppppp	pppppppppp	pfpppppppp	pppppppppp	pppppppppp	pppppppppp	pppppppppp	pppppppppp	pppppppppp
188	pngajmoel	obnpphapl	ppppppmmn	ommpkmbam	nnmpoogbp	mkpbbhppp	cpmmimghoc	pppufipajj	knpijmbap
212	ppppppapp	bpppppkpbm	pppppppppp	pppppppppp	ipppmapppp	pppppppppp	pppppppppp	pppppppppp	pefppppppp
217	ppppfbgpk	pppijakbb	ppibpppppp	bppppppppb	igppmappap	appppppppp	pppppppppp	pppppppppp	pppppppppp
221	piegbmkta	gpbppppfim	ppbpbpppaa	mpaaakgab	haplhpobp	bpbppkppp	bppppppkbp	pppapakppp	pppppppppk

[illegible]

SEX
Couples

Items 1.....

29	ppipadib	ppippppk	keppipap	ppippppk	ppipappp	pppioppp	pppppgppp	pkppppbip	ppopkpppi
68	fjppppgpp	pppfpplm	gpbappppp	kppoppppp	nlpnabap	pampopapp	ppppppppf	apfpfppa	ppipppppf
95	pppiipppp	epbppppno	abcpakppp	pppppfopb	aippppokb	pnkbppppp	ppippphnp	bkbmalp	pppkippm
125	ppppppppa	ppppppppm	bpppppppa	pioppppp	ipppppppp	pppppppip	ppppppppp	ppppppppp	ppapppppp
128	ppppppnfp	ppppppppd	ppppppbep	papippppp	fppippppp	ppppppppp	ppipapppf	pppfppppp	pbppppppp
130	pppfaidaa	ppppbbppp	npfbipp	opppppppa	hpopakpp	pkppppppk	pppbabnp	mbppmpppp	pbppppmpa
137	ppkpppdpp	ppppppppm	pmppppppf	ppphppppp	pppfpppp	ppppppppp	ppppppppp	pppfpppp	ppppppppp
171	pppppckb	ppppppppf	pbkpppppp	ppppppppb	pppaobkk	ppboppppp	ppppppppp	pbppppppp	ppppppppp
172	pppppelp	ppppppppm	ppppppppp	ppppppppp	dpppapppe	pobpppppk	ppppppppp	ppppppppp	ppppppppl
222	ppppppppp	bppppfpep	ppkappbpp	ppppppbpp	fpppppppp	ppppmkppp	bbppppkbp	pbppppppp	ppppaippo

Items 82.....

29	pppppppib	ipbbpppp	pppppppap	pppoepfpp	ppbpbppbj	pkpipipp	ipppppppb	ppppppppi	ppppppppi
68	iappppapp	pfppppppp	pmppbbppg	ppppffpba	npbpbpppe	ppppppppp	ppjkppppb	ppopippp	ppppppppp
95	kppbpgpb	jppbabp	ppppppbjp	pemlppbbf	kfgppbak	ppppppppk	epkppifpb	ipnmpbpb	ppppppppp
125	ppppppppp	ipppppmmp	ppppppppp	ppbbbpapp	pppapbppp	ppppppppp	ppppppppp	ppppppppp	ppppppppp
128	pkppppjpa	ippppepp	ppppppppp	ppppppppp	ppppppppb	ppppppppp	ppikppapp	ppppppppp	ppppppppp
130	ipnafipmm	mppabppp	ippfpabp	pappapppp	ppppppmgpp	ppppppppk	ppamapppp	kappppppa	ppppppppp
137	kppippppp	ppppppppp	pppppppppp	piappppfp	ppppppppp	ppppppppp	ppkppfppb	kppppppapp	ppppppppp
171	kppbpgpp	ppppbkip	ppppppppf	ppppppppp	ppppppppf	ppppppppp	pplppbppp	ppppppppk	ppppppppk
172	ppppppppp	jppppppp	ppppppppf	fjppppppp	ppppppppf	ppppppppp	ampapppp	ppppppppk	ppppppppp
222	pbmppppp	apbphpp	ppppppbfp	ppppppbpa	ppppppbpb	pappbkip	ppppapapp	ppneepppb	ppppppppp

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INTERESTS OF MEN AND WOMEN*¹

From the Department of Psychology of Stanford University

EDWARD K. STRONG, JR.

Before the advent of intelligence tests it was customary to view women as having intelligence inferior to that of men. Widespread use of these tests has demonstrated the fallacy of such a conception. but because the two sexes obtain approximately equal scores in the tests does not mean that the character or quality of their intellectual processes is similar. They may have the same general capacity and at the same time use this capacity in different directions. The results of this and other studies make clear that in many respects the interests of the two sexes are quite distinct.

Four times as many men as women say they like to "repair electrical wiring"; the reverse is true for "decorating a room with flowers" (see Table 8). How shall such differences be explained? Is it because boys and girls are educated along different lines? Is it because they possess somewhat different abilities? Or is it because the two sexes have different objectives or goals toward which they more or less unwittingly strive?

The differences in interests between the two sexes indicate that men and women do not desire to perform exactly the same functions. Occupationally speaking they will seek somewhat different careers; and within any occupation or profession it is most likely that they will emphasize different aspects of those occupations. For not only do women have, to a large degree, different interests from those of men, but these same differences constitute one of the general factors in terms of which the occupational interests of men alone are to be explained. Farmers and engineers, for example, are essentially masculine in interest whereas writers, lawyers, and ministers are essentially feminine. As far as interests go few women will ever wish to enter the first two of these occupations but many women should be expected to enter the last three. But since interests are not today

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and probably never will be the only determiner of occupational choice men need not worry too much about journalism, law, and the ministry becoming exclusively feminine pursuits.

THE DATA

The data for this study are drawn from three age levels, namely, high school students, college students, and adults, upon the supposition held at the beginning of this study that differences in interests between the two sexes would vary somewhat with age.

High School Group. Following up the work previously reported (1, 2), Carter has developed a masculinity-femininity scale based upon the Strong Vocational Interest Blanks of 38 pairs of unlike-sexed twins and 76 additional pairs of boys and girls. All these were drawn from grades 7 to 12 inclusive, the 114 males averaging 16.6 years of age (S.D. 1.83) and the 114 females averaging 16.4 years of age (S.D. 1.86). Reliability of this scale is .86 for males only, .78 for females only, and .94 for both sexes combined.

College Group. A similar scale has been prepared by us from the records of college students. Each male in this group was paired with a female of the same age, year in college, Thorndike Aptitude score (within eight points in all cases and within five points in nearly all cases), and average grade point ratio (within .25 point in all cases). The 154 pairs are slightly superior to the average Stanford University student since their average Thorndike score is 84 and the median of all Stanford students is 78 and their average scholarship ratio is 2.7 in comparison with 2.5 for all undergraduates. The average age is 19.3 years and the average school grade is 14.5 (half way through sophomore year) for both sexes.

Adult Group. As there is no convenient way by which true samplings of adult males and females can be obtained we have contented ourselves here with contrasting the interests of husbands and wives. How such samplings differ from true samplings is unknown. Certain of these couples were those used by Professor Terman in a study of the factors affecting compatibility of married couples and included both divorced couples and those presumably happily married. The remainder were very largely women members of the Parent-Teachers Association and their husbands. As the 277 wives averaged four years less than their husbands in

age, 58 additional pairs of unmarried men and women were added so as to bring the average of both sexes to 38.4 years of age for the 335 pairs of men and women.

M-F Scales. Five M-F (masculinity-femininity) scales have been developed from the above three sets of data. They are referred to respectively as the High School M-F scale, the College M-F scale, the Adult M-F scale, the M-F scale (± 15 weights), and the M-F scale (± 3 weights). The fourth scale is based upon all the data included in the first three, i.e., upon 603 males and 603 females. This fourth scale actually is an average of the first three, for the percentages obtained in the case of these three were averaged and the scale based thereon. Accordingly the scale represents an average age of 24.7 years; however, since the first three scales give nearly identical results, this fourth scale represents at least the age range of 16 to 38 years of age exceedingly well. All four of these scales have been developed in the same manner as occupational scales except that the interests of males have been directly contrasted with those of corresponding females.² The fifth and final scale differs from the fourth only with respect to the weighting of the items; in the fourth scale the weights range from 15 to -15 whereas in the fifth they range from 3 to -3 .³ The fourth and fifth scales give almost exactly equivalent scores⁴ and consequently the fifth alone will be published, since it is much easier to use and has slightly higher validity in terms of critical ratios (see Table 7).

Scores reported here on the High School M-F scale are based on 100 boys and 100 girls not included among those from whose blanks the scale was developed. These boys and girls averaged 16.3 years of age and 11.3 school grade. Scores reported on the College M-F scale are based on the 150 college men and 150 college women from

²The procedure is the same as employed in developing the Interest Maturity scale, where the interests of 55-year- and 15-year-old males were contrasted (3).

³Weights of 15 to 11 have a weight of 3 on the fifth scale; 10 to 7, a weight of 2; 6 to 3; 2 to -2 , 0; -3 to -6 , -1 ; -7 to -10 , -2 ; and -11 to -15 , -3 .

⁴Correlations between the M-F scale (± 15 weights) and the M-F scale (± 3 weights) based on 100 adult women is .977 (P.E. .003), upon 100 adult men it is .987 (P.E. .002) and upon the two groups combined it is .993.

Reliability of the M-F Scale ± 3 is .92 by odd-even technique, based on records of 150 college men.

whose blanks the scale was developed. They averaged 19.3 years of age and 14.5 college grade. Scores reported on the Adult M-F scale are based on records of 100 pairs of married couples from among 355 pairs upon whom the scale was based, the men averaging 40.2 years of age, the women 36.0 years of age; the men averaging 0.2 year in college (13.2 school grade) and the women .3 less (12.9 grade).

The close relationship which exists among the five M-F scales is set forth in Table 1. Among the first three scales the High School

TABLE 1
CORRELATIONS BETWEEN SCORES ON THE FIVE M-F SCALES
Lower left hand coefficients based on 100 high school girls; upper right
hand coefficients based on 100 adult women.

M-F Scales	High school	College	Adult	Average ± 15	Average ± 3
High school	—	.784	.911	.953	—
College	.842	—	.679	.907	—
Adult	.895	.797	—	.906	—
Average ± 15	.957	.926	.940	—	.977
Average ± 3				.979	—

and Adult correlate the highest (average of two coefficients is .90), the High School and College correlate next highest (.81), and the College and Adult the lowest (.74). Evidently these three groups differ in other respects than merely age or the High School and Adult scales would not correlate higher than either of these with the College scale.⁵ All three scales correlate over .90 with the Average scale (± 15) but even here the High School scale correlates highest of the three (.96), the Adult scale is next (.923), and the College scale third (.917). Yet all three have supposedly contributed equally to the Average scale.

THE INTERESTS OF MALES AND FEMALES DIFFER SIGNIFICANTLY

Table 2 gives the means and standard deviations obtained from the three groups of subjects upon the five M-F scales, also the critical ratios of the differences between means of the two sexes. As

⁵The college group is superior to the other two groups in intelligence and amount of education.

TABLE 2
EXTENT TO WHICH THE INTERESTS OF MALES AND FEMALES DIFFER

	High school students		College students		Adults	
	100 Males	100 Females	150 Males	150 Females	100 Males	100 Females
High school M-F scale						
Mean	210	—303	95	—336	118	—314
S.D.	195.8	173.0	241.0	169.5	237.7	162.8
Critical ratio*	19.7		18.0		15.9	
College M-F scale						
Mean	242	—244	224	—395	120	—306
S.D.	193.0	184.5	251.4	179.5	228.4	218.2
Critical ratio	18.1		24.6		13.5	
Adult M-F scale						
Mean	246	—229	213	—252	199	—379
S.D.	182.9	182.6	239.5	179.8	219.4	166.1
Critical ratio	18.4		19.1		21.0	
M-F scale (± 15 weights)						
Mean	226	—251	170	—317	137	—330
S.D.	174.9	168.7	232.0	165.9	215.4	162.3
Critical ratio	19.7		20.9		17.3	
M-F scale (± 3 weights)						
Mean	39	— 67	27	— 79	20	— 85
S.D.	37.4	35.8	50.6	35.3	47.1	34.4
Critical ratio	20.5		21.2		17.9	

*Critical ratio equals difference divided by standard error of the difference.

these critical ratios range between 13.5 and 24.6 there is no question but that the M-F scales differentiate the two sexes, or, in other words, that the interests of the two sexes differ significantly. This holds true regardless of the group of subjects and the scale that is used.

How much the interests of the two sexes differ is roughly shown by comparison with differences in interests of other groups. The critical ratio of the difference in interests of 15-year-old boys and 55-year-old men is 27.4.⁶ We cannot argue, however, that there is a greater difference in interests of men because of age than between the two sexes because differences in occupational interests probably affect the IM (interest maturity) scores as much as differences in age. This is so because the sampling of 15-year-old boys

⁶The Interest Maturity average score of 200 15-year-old boys is —364 (S.D. 334.2) and of 135 55-year-old men is 541 (S.D. 269.0).

represents exceedingly well the boys as found in the schools of California, whereas the sampling of 55-year-old men represents the more successful men engaged in the better paid and socially more approved professions and businesses. The interests of engineers and life insurance agents differ about as much as any two occupational groups (correlation is $-.72$). The critical ratio of the difference between the average scores of engineers and life insurance men on the engineer scale is 21.4 and on the life insurance scale is 29.1.⁷

These three sets of critical scores give some idea of the limits to differences in interests. Such differences are very great in the case of boys and 55-year-old men, as previously defined, men in occupations in which interests are most diverse, and males and females. The differences between interests of men in most contrasted occupations are less than the above.

Although there is a very great difference between the average interest scores of males and females there is nevertheless some overlapping between the distributions. One per cent of the males equal or exceed the score of the 25th percentile females, 2 per cent of the

TABLE 3
EXTENT TO WHICH THE INTERESTS OF MALES AND FEMALES OVERLAP*

Percentage of males who equal or exceed the:	Measures based on 350 females		
	Q ₁	Median	Q ₃
100 high school boys	0	0	2
150 college men	2	3	8
100 adult men	2	3	10
Total of 350	1	2	7
Percentage of females who equal or exceed the:	Measures based on 350 males		
	Q ₁	Median	Q ₃
100 high school girls	0	0	4
150 college women	0	1	3
100 adult women	0	0	1
Total of 350	0	0	3

*Based on the M-F ± 3 scale. The corresponding data for the other four M-F scales approximate these percentages very closely.

⁷Three hundred and eighty-two engineers obtain an average score of 287.1 (S.D. of 123.6) and 66 life insurance agents an average score of -126.4 (S.D. of 148.4) on the engineer interest scale: 100 engineers obtain an average score of -147.6 (S.D. of 127.9) and 220 life insurance agents an average score of 292.4 (S.D. of 119.2) on the life insurance interest scale.

males equal or exceed the median female, and 7 per cent of the males equal or exceed the 75th percentile of females, see Table 3. Women overlap the distribution of men to only half this extent. This relationship is indicated by the larger standard deviation for the males than females, as given in Table 2. A few men are very distinctly feminine in their interests since 1 per cent reach the 82nd percentile for women, 2 per cent reach the 72nd percentile for women and 4 per cent the 49th percentile, whereas the most masculine woman as far as interests go reaches only the 47th percentile for men, as shown in Table 5.

BOTH MEN AND WOMEN BECOME MORE FEMININE IN INTERESTS AS THEY GROW OLDER

High school boys score as more masculine in interest on all five M-F scales than college men (critical ratio of about 2.2); and distinctly more masculine than adult men (critical ratio of about 3.2)

TABLE 4
DIFFERENCES IN M-F SCORES AT THREE AGE LEVELS

	Males			Females		
	High school vs. college	High school vs. adults	College vs. adults	High school vs. college	High school vs. adults	College vs. adults
High school M-F scale						
Difference in means	115	92	-23	33	11	-22
Critical ratio	4.1	3.0	0.7	1.5	0.5	1.0
College M-F scale						
Difference in means	18	122	104	151	62	-89
Critical ratio	0.6	4.1	3.4	6.4	2.2	3.4
Adult M-F scale						
Difference in means	33	47	14	23	150	127
Critical ratio	1.2	1.6	0.5	1.0	6.1	5.7
M-F scale (± 15)						
Difference in means	56	89	33	66	79	13
Critical ratio	2.2	3.2	1.2	3.1	3.4	0.6
M-F scale (± 3)						
Difference in means	12	19	7	12	18	6
Critical ratio	2.2	3.2	1.1	2.4	3.6	1.2

(see Table 4). The same relationship holds with the females: the high school girls are less feminine in interest than the college women (critical ratio of about 2.8) and decidedly less than adult women (critical ratio of about 3.2). College men are more masculine in interest than adult men and college women are less feminine than adult women but the differences are not statistically significant. These differences are also illustrated in Table 5. For example, a score of 35 on the M-F scale (± 3) is the 50th percentile for high school boys, the 55th percentile for college men and the 61st percentile for adult men. The much greater change in interest from 16 to 19 years of age than from 19 to 36 years of age is in harmony with the changes in interest of males from 15 to 55 years of age, previously reported (3).

It is evident that as males advance in years their interests become somewhat more feminine and that the same thing is true of females, so that the differences in interests between the two sexes remain approximately constant from at least 16 to 36 years of age.

If a person should check all of the 420 items on the blank as "liked" he would obtain an M-F (± 3) score of -34 , if he checked every item as "disliked" the score would be -28 , but if he checked all items as "indifferent" the score would be 54 (see Table 5). These three scores represent masculine percentiles of 11, 13, and 71, respectively, and feminine percentiles of 15, 12, and 0. Being indifferent is distinctly masculine, whereas liking and disliking is typical of neither sex. There is a possibility that this conclusion from these data is an artifact. The 420 items were originally chosen with men in mind. Possibly if half of the items were chosen in terms of feminine interests, men would express many more dislikes and fewer indifferences than are recorded above.

Seemingly a score of zero on the M-F scale should be the dividing point between the scores of males and females. But according to Table 5, 27.5 per cent of men score below 0 and 4 per cent of women above 0. Because of this, the respective means of the two groups are at 28.5 and -77.4 , and half-way between the two is at -24.5 , not 0. To some extent this can be accounted for on the ground that a chance checking of the items would give a negative score (the total plus and negative weights actually add to -8) (see Table 6). Possibly the remainder of the difference between

[illegible]

TABLE 6

DISTRIBUTION OF WEIGHTS ASSIGNED ITEMS ACCORDING AS THEY ARE LIKED,
DISLIKED, OR REACTED TO INDIFFERENTLY
(M-F Scale ± 3)

Weights	Likes		Indifferences		Dislikes	
	N	Total weight	N	Total weight	N	Total weight
3	4	12	0	0	2	6
2	22	44	3	6	13	26
1	62	62	59	59	63	63
0	218	0	347	0	237	0
-1	82	-82	11	-11	87	-87
-2	26	-52	0	0	18	-36
-3	6	-18	0	0	0	0
Total of +	89	118	62	65	78	95
Total of -	113	-152	11	-11	105	-123
Total	420	-34	420	54	420	-28

-24.5 and -8 is to be explained on the ground that men are somewhat less masculine than women are feminine, or, in other words, men do not agree quite so unanimously with respect to masculine interests as women do with regard to feminine interests. This is all the more surprising because the data are based on an interest blank containing items supposedly of interest to men. A similar investigation based upon the women's interest blank should be made to see whether the inclusion of many items supposedly of interest to women will alter the relationships set forth here.

CHARACTERISTICS OF MASCULINE AND FEMININE INTERESTS

Women like 114 items on the Vocational Interest Blank more than men and men like 88 items more than women (see Table 7). But this relationship does not hold for occupational items for here men prefer seven more than women. When the list of 100 occupations is considered, it is surprising that this difference is so small. Women, however, like ten more school subjects, seven more activities and 19 more peculiarities of people than men.

Part VIII of the blank lists 40 abilities and the subject is requested to indicate whether he possesses the trait or not. In only three cases was there any particular difference in the responses of the two sexes, and here more men than women reported they "were quite sure of themselves," "have mechanical ingenuity," and "frequently make

TABLE 7

NUMBER OF THE 420 ITEMS LIKED MORE BY FEMALES THAN MALES AND VICE
VERSA, TOGETHER WITH THE WEIGHTS ASSIGNED TO SUCH PREFERENCES
(M-F Scale ± 3)

Items	Total	Females			Neither weighted	Males			Total
		Weighted	Weighted	Weighted		Weighted	Weighted	Weighted	
		-3	-2	-1		1	2	3	
100 occupations	28	4	5	19	37	23	10	2	35
54 amusements	17	0	6	11	22	12	3	0	15
39 school subjects	17	0	6	11	15	3	4		7
52 activities	16	2	4	10	27	5	2	2	9
53 peculiarities of people	20	0	0	20	32	1	0	0	1
40 order of prefer- ence for activities	11	0	3	8	20	7	2	0	9
42 comparison of two items	5	0	2	3	28	8	1	0	9
40 present abilities	0	0	0	0	37	3	0	0	3
420 items	114	6	26	82	218	62	22	4	88

wagers." Some of the items on which both sexes rated themselves equally are: Usually start activities of my group, win friends easily, accept just criticism without getting sore, have more than my share of novel ideas, am always on time with my work, get "rattled" easily, stimulate the ambition of my associates, win confidence and loyalty, am approachable, etc. It has frequently been claimed that women worry more about mistakes and have their feelings hurt more easily than men. Possibly they do, but they do not think they do any more than men.

The same situation is true regarding the ten factors affecting one's work—in only one case did the two sexes differ and here it was the females who insisted slightly oftener than the males that "opportunity to understand just how one's superior expects work to be done" was important.

Whether men and women possess these qualifications is a question upon which our data can throw no light but they do emphasize

most distinctly that each sex rates itself in the same way as the other does.

ITEMS PREFERRED MORE BY MALES THAN FEMALES

Table 8 lists the ten items most liked by males in comparison with females, the ten items most liked by females in comparison with males, and the ten items on which they agree exactly. From data of this sort for the entire 420 items we have classified the distinctly masculine interests, as follows:

1. *Mechanical, scientific activities*, e.g., repairing electrical wiring, machinist, manual training, "Popular Mechanics," physics, carpenter, factory manager, chauffeur rather than chef, calculus, author of technical book (total of 46 items).
2. *Athletic activities*, e.g., boxing, hunting, drilling soldiers, sporting pages, reporter of sporting pages, military drill (total of 11). But women like tennis and taking long walks more than men.
3. *Legal, political, and army occupations*, e.g., army officer, corporation lawyer, politician, judge, governor of a state, being pitted against another as in a political or athletic race (total of 9).
4. *Selling activities*, e.g., auto salesman, stock broker, wholesaler, traveling salesman, retailer, auctioneer, canvassing preferred to gardening (total of 7). But women prefer certain phases of selling closely related to commodities bought by them, see below.
5. *Certain forms of entertainment*, e.g., smokers, billiards, rough-house initiations, performing sleight-of-hand tricks, poker, chess, "Life" (total of 7). See below for forms of entertainment liked more by women than men.
6. *Miscellaneous items*, e.g., outside work preferred to inside, work for self, am quite sure of myself, treasurer of a society, etc. (total of 9).

ITEMS PREFERRED MORE BY FEMALES THAN MALES

1. *Musical, artistic activities*, e.g., decorating a room with flowers, looking at a collection of antique furniture, landscape gardener, art galleries, symphony concerts, artist, dramatics, organizing a play, musician, sculptor, "arts and crafts," actor, orchestra conductor (total of 22 items).

TABLE 8

EXAMPLES OF DIFFERENCES IN LIKING ITEMS BETWEEN MALES AND FEMALES
N = 350 of each sex.

Rank	Item order No.	Items	Percentage who like the item			Scoring weight	Critical ratio
			Males	Females	Diff.		
1	197	Repairing electrical wiring	55	13	42	3	13.1
2	199	Operating machinery	65	25	40	2	11.6
3	196	Adjusting a carburetor	44	6	38	3	12.9
4	103	Hunting	64	28	36	2	10.8
5	322	Ford*	50	15	35	2	10.7
6	32	Electrical engineer	42	7	35	3	11.8
7	176	Manual training	57	23	34	2	9.8
8	148	Popular mechanics	62	28	34	2	9.7
9	60	Mechanical engineer	41	8	33	3	11.0
10	24	Civil engineer	43	11	32	2	10.2
194	226	Bargaining	22	22	0	0	—
195	21	Cashier in bank	24	24	0	0	—
196	257	People who have made fortunes in business	40	40	0	0	—
197	230	Expressing judgments publicly	28	28	0	0	—
198	283	People who talk very loudly	2	2	0	0	—
199	284	People who talk very slowly	13	13	0	0	—
200	296	Men who use perfume	3	3	0	0	—
201	308	Int. the public in the machine*	15	15	0	0	—
202	400	Plan my work in detail**	49	49	0	0	—
203	403	Am approachable**	77	77	0	0	—
411	140	Poetry	27	62	-35	-2	10.0
412	74	Private secretary	18	55	-37	-2	11.0
413	245	Looking at collection of antique furniture	21	59	-38	-2	11.1
414	39	Florist	11	49	-38	-3	12.1
415	53	Librarian	14	53	-39	-3	12.0
416	174	Literature	38	77	-39	-2	11.4
417	244	Looking at a collection of rare laces	7	48	-41	-3	13.7
418	376	Tall men preferred to short men	26	68	-42	-2	12.3
419	43	Interior decorator	17	60	-43	-3	13.0
420	203	Decorating a room with flowers	19	81	-62	-3	20.9

*First three and last three preferences asked for among 10. This item included among the first three.

**From last section of blank; subjects are asked to "indicate what kind of a person they are right now and what they have done." Replies are "Yes," "Not sure," and "No," instead of liking, indifference, and disliking.

2. *Literary activities*, e.g., librarian, literature, poetry, languages, spelling, magazine writer, "Atlantic Monthly," English composition, author of novel (total of 13).
3. *Kinds of people, largely unfortunate and disagreeable*, e.g., talkative, foreigners, people who borrow things, women cleverer than you, fashionably dressed, nervous people, sick people, quick-tempered people, religious people, people who talk about themselves, very old people, pessimists, people who talk very fast, blind people, cripples, witty people (total of 21). The only kind of people preferred by men more than women is "men who chew tobacco."
4. *Certain forms of entertainment*, e.g., fortune tellers, picnics, full-dress affairs, pet canaries, entertaining others, social problem movies, excursions, chairman of entertainment committee, solitaire (total of 9).
5. *Clerical work*, e.g., private secretary, typist, shorthand, office clerk, penmanship, typewriting, bookkeeping, secretary of a society (total of 9).
6. *Teaching*, e.g., music teacher, teaching children, school teacher (total of 5).
7. *Social work*, e.g., social worker, raising money for a charity, contributing to a charity, playground director, giving first-aid assistance (total of 6).
8. *Relating to merchandise*, e.g., looking at shop windows, buying merchandise for a store, displaying merchandise in a store, buyer of merchandise, auctions, florist, jeweler (total of 7).
9. *Certain school subjects*, e.g., Bible study, botany, sociology, philosophy, nature study (total of 5).
10. *Miscellaneous*, e.g., tall men preferred more than short men, writing personal letters, raising flowers and vegetables, planning for immediate future preferred more than for five years ahead, living in the city, opening a conversation with a stranger, interpreter, employment manager, secretary of chamber of commerce, photo engraver (total of 14).

Probably no two persons would group the above items in the same manner. It is for this reason the writer has listed so many examples under each heading so that the reader may decide whether he agrees or not with the several headings. It would be easy to say that men prefer things more than people and women the reverse. Women, however, like merchandise with which they come in contact in normal life more than men, and they like things which may be classified

as artistic, musical, or literary more than men. Men, on the other hand, like 32 peculiarities of people as well as the women, but they do not like 19 other peculiarities quite as well as the women. In none of these cases is the difference statistically significant. It would also be easy to say that men like dirty things and women dislike them. Presumably women dislike dirty things but it is questionable if men like to fix a carburetor or repair electrical wiring because of the dirt aspect. There is probably no football player that enjoys playing in the rain or on a dusty field.

The above headings are given because they are interesting to think about. Only a very long detailed analysis will give us the real elements that differentiate the interests of men and women.

RELATION OF M-F TO OCCUPATIONAL INTERESTS

The interest blanks of 150 male and 150 female college students and of 100 male and 100 female adults were scored for occupational interests, as had been done previously for 100 male and 100 female high school students (2). The mean occupational interest scores for the males are reported in Table 9, together with the differences in mean scores between the males and females and the critical ratios of those differences in terms of the standard errors of the differences. Thus, 100 high school boys obtain a mean score in engineering interest of 5, the 100 girls a mean score of —170, with a difference of 175 which is 9.1 times the standard error of the difference. Perusal of the three columns of differences between the sexes or the three columns of critical ratios makes clear that the two sexes differ very consistently at the three age levels considered here.

The correlations between M-F and occupational interest scores based on the blanks of 285 Stanford seniors are given in the first column of Table 9. These correlations correlate very highly with the differences in scores of the two sexes (columns 5 to 7) and with the critical ratios of those differences (columns 8 to 10 of the table). In the latter case they are .88 for high school pupils, .93 for college students, and .82 for adults. Evidently differences in occupational interest scores between the two sexes are almost entirely to be accounted for by differences in interests of the two sexes as expressed by the M-F scale. It is to be expected, then, that when females are tested on the Vocational Interest Blank for men they will score

TABLE 9
DIFFERENCES IN OCCUPATIONAL INTEREST SCORES OF MALES AND FEMALES

Occupations	Correlation with M-F	Average score of males		Difference between males and females		Critical ratio of difference		r. with interest maturity
		H.S.	Coll.	Adult	H.S.	Coll.	Adult	
Engineer	.69	5	— 16	54	175	148	168	8.1
Farmer	.68	68	1	— 3	172	175	92	— .46
Purchasing agent	.55	19	— 20	20	70	92	76	5.0
Chemist	.50	— 27	9	12	118	99	105	5.5
Accountant	.39	— 24	— 15	39	80	80	57	3.3
Physicist	.38	— 24	— 89	— 33	172	69	102	3.0
Dentist	.28	— 10	— 28	54	47	47	15	3.8
Office worker	.21	— 86	— 8	22	— 28	58	— 9	— .3
Mathematician	.14	— 87	— 99	— 51	41	— 10	— 19	— .6
Vacuum cleaner salesman	.10	— 87	— 36	34	— 13	11	46	— .16
Personnel manager	.08	— 94	— 61	— 7	14	12	— 39	.55
Physical director	.01	— 7	— 58	10	39	— 8	— 13	.38
Physician	— .01	— 22	— 39	36	— 10	— 74	— 30	— .12
Architect	— .05	— 113	2	10	— 52	6	27	— .13
C.P.A.	— .05	— 160	— 64	— 58	15	— 32	5	2.2
Psychologist	— .18	— 51	— 38	— 50	16	— 12	— 131	.21
Musician	— .20	— 116	— 59	12	72	38	70	— .10
Real estate salesman	— .23	— 245	— 182	85	— 126	61	— 128	.67
Teacher	— .27	— 87	— 102	— 63	69	39	61	.68
Y. M. C. A. secretary	— .36	— 188	— 238	— 106	— 145	— 261	— 152	.20
Life insurance salesman	— .38	— 164	— 66	24	72	36	39	— .07
Artist	— .38	— 83	— 13	— 1	41	47	6	.76
City school superintendent	— .52	— 231	— 171	78	— 164	— 159	— 27	.26
Lawyer	— .52	— 201	— 100	— 112	— 122	— 187	— 46	— .3
Interest maturity	— .57	— 141	— 114	93	— 121	— 175	92	— .6.1
Minister	— .61	— 89	— 68	— 23	— 10	— 22	— 11	.76
Advertising man	— .64	— 89	— 68	— 23	— 10	— 22	— 11	.11
Journalist	— .64	— 89	— 68	— 23	— 10	— 22	— 11	— .13
Average of 22	— .05	— 89	— 68	— 23	— 10	— 22	— 11	— .8.8

lower than males on the first 13 occupations listed in Table 9, and will score higher than males on the remaining 14 occupations.

In a previous article (4), while discussing the data regarding high school boys and girls (reported in Table 9), it was stated that

Boys score higher in nine occupations and girls score higher in fourteen occupations. Sixteen of the 23 differences are statistically significant. If the rank-order for femininity-masculinity of these 23 occupations is correlated with the loadings of Thurstone's five factors A to E, the correlations obtained are as follows, respectively, $-.53$, $-.12$, $.86$, $.59$, and $.20$. Is Factor C to be identified with femininity-masculinity since in this case the correlation between the two is $.86$?

Since then we have made a further factor analysis of twenty-nine occupational interests, intelligence (Thorndike Aptitude Test), interest maturity, and masculinity-femininity. The loadings for masculinity-femininity on the five factors are, respectively, $.131$, $-.020$, $.848$, $-.024$, and $.036$. Seventy-two per cent ($.848$ squared) of masculinity-femininity is accounted for by this third factor. On this basis we cannot conclude that M-F and the third factor are identical but only that they are closely related. We can conclude, however, that the same differences in interests that differentiate males and females enter into the differentiation of occupational interests of men. In other words, engineers, farmers, carpenters, purchasing agents, and the like, have interests which are more masculine than the average man, while journalists, advertising men, ministers, lawyers, city school superintendents, and the like, have interests which are more feminine than the average man. Are the differences in interests of engineers and lawyers to be found in differences in hormone secretions, or in early attachment to father instead of to mother, or in the possession of certain abilities in which the sexes also differ?

SUMMARY

1. The interests of males and females differ significantly. This holds true among high school pupils, college students, and adults.
2. These differences apply to 202 items among the 420 on the Vocational Interest Blank for men; in the case of the remaining 218 there is no difference in response or it is very slight.

3. As males and females grow older, their interests become more distinctly feminine; that is, juvenile interests of both sexes are more distinctly masculine, adult interests more distinctly feminine. There is no indication, however, that the interests of the two sexes become more or less alike with age up to forty years.

4. The differences in interests between the two sexes constitute one of the major factors in terms of which occupational interests of men are to be explained.

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LES INTÉRÊTS DES HOMMES ET DES FEMMES

(Résumé)

Les intérêts des deux sexes diffèrent d'une façon significative. C'est également vrai pour les élèves des deux sexes dans le collège, les étudiants universitaires des deux sexes, et les adultes, principalement dans ce cas des maris et des femmes. Une échelle M-F (masculinité-fémininité) mesure de telles différences avec le Test d'Intérêt Professionnelle.

Quoiqu'il y ait une très grande différence entre les résultats moyens de l'intérêt des mâles et des femelles, il y a cependant quelque empiètement entre les distributions. Un pour cent des mâles donne un résultat égal ou supérieur à celui du vingt-cinquième percentile des femelles, deux pour cent des mâles donnent un résultat égal ou supérieur au médian des femelles et sept pour cent donnent un résultat égal ou supérieur au soixante-quinzième percentile. Les femmes empiètent sur la distribution des hommes seulement de la moitié de ces chiffres.

Les garçons collégiens montrent un intérêt plus masculin que les étudiants masculins de l'université, et ceux-ci à leur tour que les adultes masculins. La même relation se montre vraie pour les femelles. En autres mots, comme les deux sexes deviennent plus âgés, leurs intérêts deviennent un peu plus féminins, de sorte que les différences des intérêts entre les deux sexes restent approximativement constantes au moins de 16 à 36 ans.

Les mêmes différences des intérêts qui distinguent les mâles et les femelles

se montrent dans la différenciation des intérêts professionnels des hommes. Les ingénieurs, les fermiers, les charpentiers, les acheteurs ont des intérêts qui sont plus masculins que ceux de l'homme moyen, tandis que les rédacteurs des journaux, ceux qui font la publicité, les prêtres, les avocats et les directeurs des écoles municipales ont des intérêts qui sont plus féminins que ceux de l'homme moyen.

STRONG, FILS

MÄNNER- UND FRAUENINTERESSEN

(Referat)

Die Interessen der beiden Geschlechter unterscheiden sich sehr. Dies gilt auch für Schulknaben und Mädchen, Universitätsstudenten und Studentinnen, und Erwachsene, auch im Grossen für Eheleute. Eine M-W-Skala (Männlichkeit-Weiblichkeit) misst solche Unterschiede in Beziehung zu dem Beruf-sinterestentest.

Obgleich es einen sehr grossen Unterschied zwischen den Durchschnittsinteressenwerten der Männer und der Frauen gibt, so findet sich doch ein Übergreifen zwischen den Verteilungen. Ein Prozent der Männer gleicht oder überschreitet den Wert des 25. Hundertteils der Frauen, zwei Prozent der Männer gleicht oder überschreitet den Durchschnittswert der Frauen, und sieben Prozent gleicht oder überschreitet den 75. Hundertteil. Die Werte von den Frauen überschreiten die Verteilung der Männer nur zur Hälfte dieses Umfangs.

Schulknaben (high school) sind männlicher in ihren Interessen als Universitätsstudenten und diese ihrerseits männlicher als erwachsene Männer. Dasselbe Verhältnis gilt für die Frauen. Mit anderen Worten, je älter beide Geschlechter werden, werden ihre Interessen etwas weiblicher, so dass die Unterschiede in den Interessen der beiden Geschlechter ungefähr konstant bleiben, wenigstens im Alter von 16 bis 36 Jahren.

Dieselben Unterschiede der Interessen, die Frauen und Männer unterscheiden, erscheinen in der Differenzierung der Berufsinteressen der Männer. Ingenieure, Landwirte, Zimmerleute, Kaufvertreter haben Interessen, die männlicher sind als beim Durchschnittsmenschen, während Zeitungsherausgeber, Reklamemeute, Prediger, Advokaten, und städtische Schulaufseher Interessen haben, die weiblicher sind als beim Durchschnittsmenschen.

STRONG, JR.

A NOTE ON THE COLOR PREFERENCE OF CHINESE STUDENTS* 1 2

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N. C. SHEN

In spite of the extensive work on the question of color preference among different races, no systematic work had been done with the Chinese before the study reported by Chou and Chen (1). Garth (2, pp. 115-136) summarized the results of color preference for the Whites, Negroes, Indians, Filipinos, Japanese, and Mexicans, and the fact stands out clearly that "white" is either least preferred (by the Whites, Negroes, Indians, and Japanese) or next to the least preferred (with the Filipinos and Mexicans). Chou and Chen found that, with their technique of testing, Chinese students preferred white most, a fact that is just opposite to the trend of color preference in all the other races thus far investigated. Their finding is especially interesting, because, as Garth has said, white "is not psychologically speaking a color at all."

Chou and Chen used in their test Chinese color characters instead of actual colors, as Michaels³ has found no difference in the preference tendency between using actual colors and color words. In a seminar report of their study by Mr. Chen, the writer happened to notice the fact that the Chinese character for white is especially

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¹This study is a repetition of the work by Chou and Chen.

²Thanks are due to Professor Siegen K. Chou for his kindness in granting the writer the privilege of reading his manuscript before its publication, without which the present study would have been much delayed. Constant discussion with him has been very helpful to the writer. To Mr. H. P. Chen, the writer is indebted for his help in treating a part of the data. Gratitude is due also to Misses Ruth Sun and Y. K. Lin, Mr. Y. Hsia, and Prof. H. T. Lei for either conducting the test or lending their students to serve as subjects.

³The reader is referred to the article by Chou and Chen, for, in what follows, the writer will, in many places, take for granted that the descriptions in their article are understood.

legible in comparison with the other color characters. Would, then, this higher legibility be responsible for the first position occupied by white in the Chinese student color preference scale as obtained by Chou and Chen? If the subject comes across some color character pair (as in Part I of their test) or a row of color characters (as in Part II), on which he has no definite preference one way or the other, then the character with a higher legibility might be more likely to be chosen than that or those of lower legibility. With this suspicion in mind, the writer repeated Chou and Chen's study, modifying their test form by replacing all the Chinese color characters with English equivalents. Besides, in Part II, the English color words now follow each question, i.e., at its right, instead of appearing in front, or at the left, of it as in the original Chinese form. This spatial change of the color words may facilitate underlining by the subject. All other things remained the same so that the results obtained here would be comparable to theirs.

PROBLEM

The present problem is to repeat the work reported by Chou and Chen, with special reference to the most preferred color, white, in their scale. The suspected legibility factor was controlled by substituting English color words for Chinese color characters in their color preference test. In addition, it aims to find sex differences, if any, in Chinese students with respect to color preference.

SUBJECT AND PROCEDURE

The modified form of Chou and Chen's color preference test was given to four groups of Chinese students: (1) 81 students—75 boys and 6 girls—in Professor H. T. Lei's Chinese History class of Tsing Hua University returned complete answers to Part I of the test, but only 62—58 boys and 4 girls—of them answered all the questions in Part II; (2) 138 students—71 boys, 60 girls, and 7 giving no sex—in Mr. Y. Hsia's General Psychology class of Yenching University answered Part I satisfactorily, while 129—65 boys, 59 girls, and 5 giving no sex—of them completed Part II; (3) 74 senior students of Bridgman Girls Middle School of Peiping answered Part I in full and only four of them failed to do so in Part II; and (4) 168 junior students of Nanking Girls Middle School

returned Part I complete and 150 of them finished Part II. In all, we have 461 cases for Part I and 411 cases for Part II.

In giving the test to the two college groups, the writer simply told the subjects the Chinese equivalents of the English color names, but no Chinese color characters appeared during the period of testing. For the two middle school groups, color papers, about 10x10 ins. in size, for the nine color words used were shown to the subjects before starting on underlining the preferred colors. The 168 junior middle school students were coached, about two weeks ahead of the test, by Miss Ruth Sun who also conducted the test, to learn the right English color names. As for the method of treatment of data, the writer followed closely the original procedure used by Chou and Chen.

RESULTS

All results will be presented in tables similar to Chou and Chen's so that comparisons can easily be made. Results from Part I consist of 36 paired comparisons of nine color words, red, orange, yellow, green, blue, violet, white, gray and black; Part II requires answering 42 questions about the preferred color for objects, also limited to the above nine color words.

In the writer's opinion, Part I is far better than Part II in testing color preference (if there be such a thing), as the former suffers much less from the influence of individual experience, type of living, and other conventional conditions, which are inevitably modifying the kind of answers to the questions in Part II. Furthermore, it is doubtful that all the objects listed in the questions of Part II could have any one of the nine colors. As soon as there is any inequality in the number of colors that generally attach to those listed objects, the results thus obtained could not be taken seriously as indicating an actual order of preference. It is, however, quite another thing when Chou and Chen investigated "general" and "specific" color preference.

Part I. Table 1 gives the rank orders from the experimental proportions of preference for the nine color words by paired comparisons for the four groups. Blue is obviously the most preferred color, occupying the first place in the Yenching and the Nanking groups and the second in the Bridgman group, and tying with green for the first in the Tsing Hua group.

TABLE 1
RANK ORDERS OF PREFERENCE FOR COLOR WORDS BY PAIRED COMPARISONS

Group	No. subjects	R	O	Y	G	B	V	W	GY	BK
Tsing Hua	81	7	4	6	1½	1½	3	5	9	8
Yenching	138	6	3	7	4	1	5	2	9	8
Bridgman	74	6	5	4	3	2	9	1	7	8
Nanking	168	7	5	6	4	1	2	3	8	9

Though the four groups do not agree exactly as to the order of preference, the general tendency is consistent for all the colors except violet, which Michaels also found to be rather unstable and shifting. The Spearman rank difference correlations between any two orders of preference among the four groups are shown in Table 2.

TABLE 2
RANK CORRELATIONS BETWEEN ANY TWO ORDERS OF PREFERENCE

Groups	r_r	P.E.
Tsing Hua & Yenching	.813±.080	
Tsing Hua & Bridgman	.463±.185	
Tsing Hua & Nanking	.913±.039	
Yenching & Bridgman	.700±.120	
Yenching & Nanking	.850±.065	
Bridgman & Nanking	.483±.181	

Nevertheless, the fact that different groups had different orders of preference is a significant thing in itself. Chou and Chen seem to have neglected this point, though they had three groups of subjects.

From the experimental proportions of preference, we can construct a scale of preference according to Thurstone's method (4). Thus Table 3 shows the scale values. It is to be noticed that the four groups differ considerably in the length of the scale of preference. Whether this difference in the length of the scales represents a difference of ability to discriminate between the feelings of different colors as Garth suggested, we have no factual check on this point to render an answer.

If we pool together the results of the four groups, the experimental proportions of preference are as in Table 4. Here the order of preference from the top downward is: blue, white, green, orange, violet, yellow, red, gray, and black. By employing Thurstone's

TABLE 3
SCALE VALUES (THE LEAST PREFERRED COLOR BEING TAKEN AS HAVING ZERO
VALUE)

Tsing Hua group	Yenching group	Bridgman group	Nanking group	Total
Blue	1.4498	1.2924	1.9968	1.1716
Green	1.4355	1.2255	1.6987	1.1358
Violet	1.3558	.9616	1.2836	1.1251
Orange	1.3533	.8354	1.1275	.8987
White	1.3483	.7740	1.0914	.8959
Yellow	1.0243	.6767	.9088	.7370
Red	.9816	.3669	.5149	.4374
Black	.1421	.2104	.4475	.3222
Gray	.0000	.0000	.0000	.0000
		White	Blue	1.1547 (B)
		Blue	Violet	1.1538 (W)
		Green	White	.8590 (G)
		Yellow	Green	.8471 (O)
		Orange	Orange	.7188 (V)
		Red	Yellow	.5621 (Y)
		Gray	Red	.5035 (R)
		Black	Gray	.0366 (GY)
		Violet	Black	.0000 (BK)

TABLE 4
EXPERIMENTAL PROPORTIONS OF PREFERENCE FOR COLOR WORDS
(461 subjects)

	R	O	Y	G	B	V	W	GY	BK
Red	...	.616	.483	.588	.653	.540	.705	.345	.427
Orange	.384	...	.397	.492	.590	.499	.532	.311	.308
Yellow	.517	.603	...	.577	.631	.579	.633	.353	.328
Green	.412	.508	.423	...	.571	.453	.549	.301	.272
Blue	.347	.410	.369	.429	...	.421	.445	.211	.171
Violet	.460	.501	.421	.547	.579	...	.625	.356	.338
White	.295	.468	.367	.451	.555	.375	...	.187	.143
Gray	.655	.689	.647	.699	.789	.644	.813	...	.518
Black	.573	.692	.672	.728	.829	.662	.857	.482	...
Σp	3.643	4.487	3.779	4.511	5.197	4.173	5.159	2.546	2.505
Rank	7	4	6	3	1	5	2	8	9

method as mentioned above, the scale of preference for color words was constructed and put side by side for comparison with Chou and Chen's in Figure 1. A few points of difference as well as of similarity between the two scales may be briefly stated as follows:

1. In Chou and Chen's scale, white occupied the first position while in the present scale, blue comes first though white is closely competing for it. This reversal of order for blue and white *may* indicate, as we first suspected, the influence of the operation of the higher legibility of the Chinese character for white in Chou and Chen's test and the absence of it in the present test.

2. Violet and orange came up quite high in the present scale, in comparison with Chou and Chen's. This upward shift might simply be due to the unstable nature of these two colors as demonstrated by Michaels.

3. Black stayed at the bottom in our case, while in Chou and Chen's scale, it was even above violet and orange. We have no explanation for that; but it may be noticed that black is, strictly speaking, not a color.

4. Both of the scales agree in having gray at a very low position.

5. Though white is overtaken, in our case, by blue, it is still a very close second. Granting that there is no particular legibility attached to the English word white in the present modified form of the test, our results substantiate Chou and Chen's finding that Chinese students like white very strongly, a fact of interest to racial psychology.

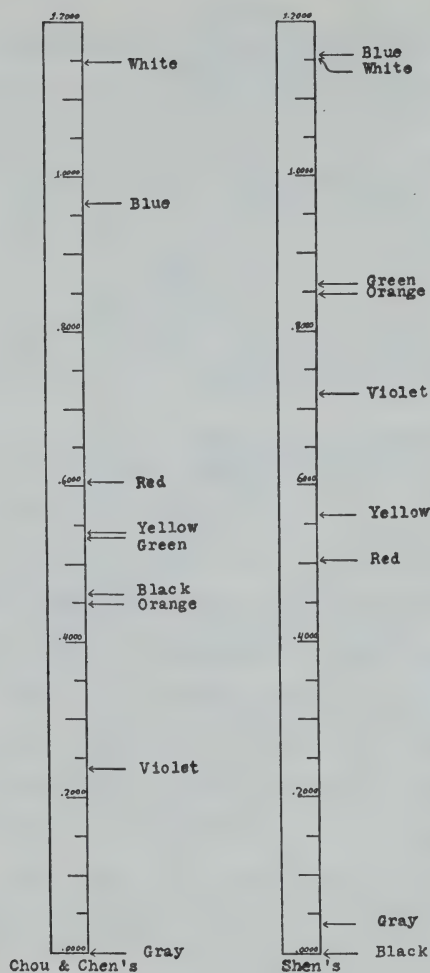


FIGURE 1

Part II. Rank orders from the percentages of preference for the different colored objects in the 42 questions was given for the four groups in Table 5 and the percentages of preference for all groups combined in Table 6. *A, B, . . . G* represent questions dealing with "general" objects, and *A1, A2, . . . G5*, "specific" objects, all being

TABLE 5
RANK ORDERS OF PREFERENCE FOR COLORED OBJECTS BASED UPON PERCENTAGES
OF PREFERENCE

Group	No. subjects	R	O	Y	G	B	V	W	GY	BK
Tsing Hua	62	3	8	6	4	2	9	1	5	7
Yenching	129	3	8	4	6	2	9	1	5	7
Bridgman	70	2	7	5	4	3	9	1	6	8
Nanking	150	2	3	6	5	4	9	1	7	8

in accord with Chou and Chen's arrangement (see their Table 1). That the four groups agree closely regarding the order of preference for the nine colors for the different objects can be seen from the magnitude of the rank correlations in Table 7.

A comparison of Table 2 with Table 7 impresses one with the higher correlations in the latter. This difference in the degree of agreement between groups as to the order of preference might be due to the testing of conventional ideas of preference in Part II rather than individual preference. The fact that practically no subject preferred gray or black for the *E* questions dealing with flowers probably indicates the operation of conventional ideas of preference rather than individual preference. So, once more, the writer desires to call the reader's attention to the possible difference between the two parts of the test, as briefly stated at the beginning of the section on Results.

If we put together the four groups, as in Table 6, we have the order of preference for the nine colors for the different objects thus: white, red, blue, green, yellow, gray, orange, black, and violet. Chou and Chen's results put the order as: white, red, black, blue, yellow, gray, orange, and violet. Thus our subjects seemed to have decidedly little preference for black, a fact which has been pointed out in Part I where black comes last in that order of preference by the method of paired comparisons.

SEX DIFFERENCES

Chou and Chen had only 45 girls in their total group of 451 subjects, and they did not compare sex differences, if any, in color preference. In the present study, we had 146 boys and 308 girls answering Part I, of whom 123 and 283 respectively answered Part II. So it may be permissible to treat the results separately for the sexes.

TABLE 6
PERCENTAGE OF PREFERENCE FOR COLORS OF DIFFERENT OBJECTS
(411 subjects)

Classes	R	O	Y	G	B	V	W	GY	BK
A	.037	.051	.109	.080	.085	.017	.475	.141	.005
A1	.207	.163	.061	.175	.049	.012	.070	.178	.085
A2	.107	.063	.070	.063	.066	.015	.283	.304	.029
A3	.007	.054	.097	.034	.085	.017	.604	.092	.010
A4	.289	.207	.197	.027	.015	.032	.078	.107	.048
A5	.102	.102	.139	.093	.085	.022	.270	.114	.073
B	.051	.051	.024	.105	.392	.041	.171	.051	.114
B1	.017	.051	.046	.041	.253	.037	.180	.217	.158
B2	.015	.027	.017	.090	.552	.034	.102	.085	.078
B3	.022	.024	.024	.044	.210	.029	.000	.161	.486
B4	.097	.090	.049	.186	.272	.102	.058	.039	.107
B5	.046	.039	.100	.234	.161	.022	.012	.321	.065
C	.131	.127	.075	.156	.127	.095	.226	.019	.044
C1	.122	.068	.031	.068	.190	.078	.090	.039	.314
C2	.046	.053	.066	.034	.134	.032	.248	.278	.109
C3	.058	.139	.114	.058	.122	.066	.236	.163	.044
C4	.053	.083	.085	.034	.085	.039	.309	.234	.078
C5	.007	.068	.056	.007	.020	.027	.647	.117	.051
D	.044	.149	.170	.056	.056	.024	.331	.102	.068
D1	.024	.083	.151	.073	.032	.027	.415	.056	.139
D2	.017	.075	.078	.170	.178	.071	.209	.139	.063
D3	.037	.146	.275	.039	.039	.034	.226	.095	.109
D4	.037	.178	.265	.041	.034	.029	.238	.100	.078
D5	.061	.141	.197	.041	.029	.039	.260	.105	.127
E	.324	.119	.073	.109	.039	.168	.168	.000	.000
E1	.105	.141	.343	.041	.007	.068	.275	.000	.020
E2	.517	.039	.039	.032	.010	.061	.280	.002	.020
E3	.407	.073	.085	.041	.015	.093	.277	.002	.007
E4	.496	.061	.100	.034	.027	.075	.192	.005	.010
E5	.377	.032	.239	.017	.007	.012	.309	.000	.007
F	.080	.134	.134	.170	.107	.080	.231	.049	.015
F1	.095	.095	.080	.180	.285	.100	.005	.126	.034
F2	.090	.092	.088	.204	.187	.088	.202	.039	.010
F3	.024	.049	.114	.306	.134	.056	.270	.032	.015
F4	.061	.083	.092	.343	.163	.046	.190	.017	.005
F5	.233	.117	.051	.161	.168	.090	.151	.024	.005
G	.078	.105	.107	.151	.207	.067	.149	.053	.083
G1	.097	.100	.127	.161	.260	.056	.029	.105	.065
G2	.308	.034	.039	.127	.144	.056	.229	.046	.017
G3	.088	.029	.034	.248	.095	.029	.015	.029	.433
G4	.027	.124	.141	.071	.051	.053	.090	.253	.190
G5	.244	.095	.036	.085	.080	.024	.326	.093	.017
Av. percent- age	.126	.090	.105	.106	.125	.051	.217	.098	.082
Rank	2	7	5	4	3	9	1	6	8

TABLE 7

RANK CORRELATIONS BETWEEN ANY TWO ORDERS OF PREFERENCE

Groups	ρ_r P.E.
Tsing Hua & Yenching	.933±.030
Tsing Hua & Bridgman	.950±.023
Tsing Hua & Nanking	.700±.120
Yenching & Bridgman	.917±.038
Yenching & Nanking	.667±.133
Bridgman & Nanking	.833±.072

TABLE 8

EXPERIMENTAL PROPORTIONS OF PREFERENCE FOR COLOR WORDS
(146 boys)

	R	O	Y	G	B	V	W	GY	BK
Red	...	.658	.425	.562	.562	.603	.658	.247	.377
Orange	.342	...	.328	.438	.486	.520	.452	.158	.220
Yellow	.575	.672	...	.616	.623	.698	.610	.233	.260
Green	.438	.562	.384	...	.534	.582	.472	.212	.199
Blue	.438	.514	.377	.466	...	.486	.452	.151	.110
Violet	.397	.480	.302	.418	.514	...	.514	.240	.233
White	.342	.548	.390	.528	.548	.486	...	.185	.123
Gray	.753	.842	.767	.788	.849	.760	.815	...	.616
Black	.623	.780	.740	.801	.890	.767	.877	.384	...
Σp	3.908	5.056	3.713	4.617	5.006	4.902	4.850	1.810	2.138
Rank	6	1	7	5	2	3	4	9	8

TABLE 9

EXPERIMENTAL PROPORTIONS OF PREFERENCE FOR COLOR WORDS
(308 girls)

	R	O	Y	G	B	V	W	GY	BK
Red	...	.594	.513	.600	.695	.503	.727	.386	.445
Orange	.406	...	.432	.526	.633	.487	.568	.383	.348
Yellow	.487	.568	...	.558	.630	.513	.643	.406	.354
Green	.400	.474	.442	...	.581	.386	.581	.338	.299
Blue	.305	.367	.370	.419	...	.383	.442	.237	.202
Violet	.497	.513	.487	.614	.617	...	.685	.416	.390
White	.273	.432	.357	.419	.558	.315	...	.185	.150
Gray	.614	.617	.594	.662	.763	.584	.815	...	.467
Black	.555	.652	.646	.701	.798	.610	.850	.533	...
Σp	3.537	4.217	3.841	4.499	5.275	3.781	5.311	2.884	2.655
Rank	7	4	5	3	2	6	1	8	9

Tables 8 and 9 give the experimental proportions of preference for the nine color words by paired comparisons in Part I for boys and

girls respectively. From these two tables, scale values for the two sexes were computed and are given in Table 10.

TABLE 10
SCALE VALUES
(the least preferred color being taken as having zero value)

Boys		Girls	
Orange	1.4582	White	1.1423
Blue	1.4482	Blue	1.1057
Violet	1.3617	Green	.7777
White	1.3518	Orange	.6621
Green	1.2345	Yellow	.5119
Red	.9322	Violet	.4854
Yellow	.8569	Red	.3838
Black	.1179	Gray	.1064
Gray	.0000	Black	.0000

The boys had a strong preference for orange, blue, and violet but a weak preference for gray, black, and yellow; while the girls strongly preferred white, blue, and green, and least preferred black, gray, and red. Referring to those colors common to both groups of either strong or weak preference, we notice that orange and violet are peculiar to the boys' taste and white and green to the girls' taste; and that the boys disliked, shall we say, yellow, while the girls disliked red.

Here, it is interesting to note that those colors peculiar to the boys' preference are of a darker type than those peculiar to the girls'. On the other hand, the color which the boys exclusively disliked is brighter than the disliked color of the girls.

For Part II, the results for the boys and those for the girls are separately shown in Tables 11 and 12. Nothing particularly striking between the two sexes is seen except one might like to say that the boys seem to put gray rather high in the order of preference.

SUMMARY AND CONCLUSIONS

Chou and Chen's color preference test was modified and given to more than 400 Chinese students. Results from paired comparisons of color words give *blue, white, green, orange, violet, yellow, red, gray and black* in a descending order of preference, for which a scale was constructed.

Part II, which deals with the preference of colors for general

TABLE 11
PERCENTAGE OF PREFERENCE FOR COLORS OF DIFFERENT OBJECTS
(123 boys)

Classes	R	O	Y	G	B	V	W	GY	BK
A	.041	.081	.073	.106	.106	.008	.463	.122	.000
A1	.211	.098	.106	.318	.056	.016	.024	.130	.041
A2	.163	.114	.089	.081	.081	.008	.220	.228	.016
A3	.008	.041	.106	.049	.065	.024	.626	.057	.024
A4	.211	.219	.277	.041	.016	.049	.081	.073	.033
A5	.122	.130	.147	.122	.081	.049	.195	.081	.073
B	.000	.024	.016	.024	.415	.016	.212	.138	.155
B1	.000	.041	.033	.016	.325	.024	.057	.236	.268
B2	.008	.000	.000	.024	.635	.000	.089	.187	.057
B3	.000	.024	.033	.000	.187	.033	.000	.228	.495
B4	.147	.081	.049	.171	.211	.171	.024	.024	.122
B5	.008	.049	.187	.138	.147	.008	.016	.374	.073
C	.081	.098	.073	.146	.163	.171	.154	.033	.081
C1	.114	.041	.033	.041	.211	.130	.049	.033	.348
C2	.000	.024	.033	.008	.089	.016	.065	.667	.098
C3	.000	.130	.098	.016	.114	.057	.260	.284	.041
C4	.033	.089	.098	.024	.033	.041	.308	.260	.114
C5	.016	.057	.057	.016	.057	.073	.407	.219	.098
D	.073	.154	.187	.065	.049	.033	.301	.105	.033
D1	.041	.057	.171	.065	.024	.033	.349	.065	.195
D2	.024	.049	.073	.219	.163	.081	.163	.130	.098
D3	.065	.098	.358	.033	.008	.057	.178	.089	.114
D4	.049	.130	.342	.016	.024	.073	.220	.057	.089
D5	.081	.130	.204	.041	.016	.065	.252	.089	.122
E	.146	.114	.081	.179	.049	.244	.187	.000	.000
E1	.073	.154	.268	.041	.016	.106	.293	.000	.049
E2	.462	.033	.041	.033	.016	.098	.284	.000	.033
E3	.374	.065	.073	.024	.033	.130	.293	.000	.008
E4	.431	.081	.081	.033	.041	.098	.211	.000	.024
E5	.415	.024	.106	.016	.008	.024	.399	.000	.008
F	.098	.154	.163	.114	.098	.154	.146	.057	.016
F1	.081	.114	.114	.187	.244	.114	.008	.114	.024
F2	.073	.049	.065	.187	.252	.122	.203	.033	.016
F3	.016	.041	.098	.357	.106	.098	.252	.016	.016
F4	.049	.081	.073	.407	.187	.081	.106	.008	.008
F5	.188	.089	.041	.122	.211	.114	.211	.024	.000
G	.065	.081	.090	.195	.122	.122	.163	.008	.154
G1	.089	.114	.155	.089	.211	.114	.049	.098	.081
G2	.422	.024	.057	.098	.122	.049	.179	.033	.016
G3	.163	.041	.057	.219	.089	.049	.024	.016	.342
G4	.024	.106	.106	.049	.033	.114	.114	.227	.227
G5	.244	.049	.057	.098	.081	.049	.284	.114	.024
Av. percent- age	.117	.080	.109	.101	.124	.074	.193	.111	.091
Rank	3	8	5	6	2	9	1	4	7

TABLE 12
PERCENTAGE OF PREFERENCE FOR COLORS OF DIFFERENT OBJECTS
(283 girls)

Classes	R	O	Y	G	B	V	W	GY	BK
A	.035	.035	.124	.071	.074	.021	.481	.152	.007
A1	.209	.194	.042	.117	.042	.011	.088	.191	.106
A2	.085	.042	.060	.056	.056	.018	.311	.336	.036
A3	.007	.060	.092	.028	.092	.014	.601	.106	.000
A4	.325	.198	.163	.020	.014	.025	.078	.120	.057
A5	.088	.092	.138	.081	.085	.011	.307	.127	.071
B	.074	.064	.028	.141	.378	.050	.152	.014	.099
B1	.025	.056	.053	.053	.223	.039	.233	.212	.106
B2	.018	.039	.025	.120	.519	.046	.110	.035	.088
B3	.032	.025	.021	.064	.219	.028	.000	.131	.480
B4	.078	.095	.049	.191	.300	.071	.071	.046	.099
B5	.064	.035	.060	.279	.166	.028	.011	.300	.057
C	.155	.138	.078	.163	.099	.064	.261	.014	.028
C1	.127	.081	.032	.081	.180	.056	.110	.039	.294
C2	.067	.067	.081	.046	.156	.039	.332	.095	.117
C3	.085	.141	.124	.077	.124	.071	.226	.106	.046
C4	.064	.081	.074	.039	.109	.039	.311	.219	.064
C5	.004	.074	.053	.004	.004	.007	.755	.071	.028
D	.032	.149	.166	.053	.053	.021	.350	.095	.081
D1	.018	.095	.138	.078	.032	.025	.448	.049	.117
D2	.014	.085	.081	.152	.187	.064	.230	.141	.046
D3	.025	.170	.244	.042	.053	.021	.251	.092	.102
D4	.032	.194	.236	.053	.039	.011	.247	.117	.071
D5	.053	.145	.198	.042	.035	.028	.269	.106	.124
E	.406	.120	.071	.081	.028	.131	.163	.000	.000
E1	.113	.138	.378	.042	.004	.053	.265	.000	.007
E2	.548	.042	.035	.032	.007	.042	.276	.004	.014
E3	.420	.078	.088	.049	.007	.074	.273	.004	.007
E4	.530	.046	.109	.032	.021	.067	.184	.007	.004
E5	.364	.035	.297	.018	.007	.007	.265	.000	.007
F	.075	.127	.124	.198	.110	.042	.268	.042	.014
F1	.102	.088	.064	.177	.304	.095	.004	.131	.035
F2	.095	.110	.099	.216	.156	.074	.201	.042	.007
F3	.028	.046	.120	.290	.148	.032	.283	.039	.014
F4	.067	.077	.099	.318	.152	.032	.230	.021	.004
F5	.258	.124	.056	.180	.149	.081	.120	.025	.007
G	.084	.113	.110	.134	.244	.046	.141	.075	.053
G1	.099	.095	.117	.195	.279	.032	.021	.109	.053
G2	.265	.039	.032	.141	.152	.056	.244	.053	.018
G3	.053	.025	.021	.265	.099	.021	.011	.032	.473
G4	.028	.131	.159	.081	.060	.025	.081	.258	.177
G5	.248	.113	.028	.081	.081	.014	.343	.081	.011
Av. percent- age	.131	.093	.104	.109	.125	.041	.229	.091	.077
Rank	2	6	5	4	3	9	1	7	8

and specific objects, shows that white was most frequently chosen, and that red, blue, green, yellow, gray, orange, black, and violet are chosen in an order of decreasing preference.

Sex differences in Part I indicate that the colors peculiar to the boys' preference are darker than those peculiar to the girls'. Contrarily, the boys' disliked color is brighter than that disliked by the girls. In Part II, the boys and the girls are not much different in their type of preference, except that the boys seem to have a much stronger preference for gray than do the girls.

Finally, it must be pointed out that the results here obtained were from using color words; it is not claimed that they are true if actual colors be employed instead. Perhaps it might be worthwhile to repeat the work with actual colors in a comparable way.

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AN INTERPRETATION OF AMBIVALENCE OF TWO AMERICAN INDIAN TRIBES*

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Some time ago, in a review of *Totem and Taboo*, A. L. Kroeber (2) referred to a number of Freud's suggestions as contributions "which every ethnologist must sooner or later take into consideration." Kroeber singled out Freud's discussion of ambivalence as particularly provocative and, in part, said of it: "Again the strange combination of mourning for the dead with the fear of them and taboos against them is certainly illumined if not explained by this theory of ambivalence" (p. 48).

Whether or not the ethnologist has taken this phase of Freud's writings into consideration, it remains true that few students of preliterate peoples have conducted inquiries designed to test or modify the psychoanalytic theory and conclusions upon the point.

The reason may be that the ethnologist very often has but a limited time in which to investigate a given culture and can do little more than execute his first obligation, to delineate the general contours and principal features of the society. Again, the psychologists and psychiatrists, who are likely to have greatest concern with the questions Freud raises, generally have little more contact with native populations than that gleaned through the pages of anthropological monographs.

With the generous aid, in turn, of the Laboratory of Anthropology of Santa Fe, the Southwestern Society, the Social Science Research Council, and the Department of Anthropology of the University of Chicago, I have been enabled to continue anthropological field-work for the last two years among the Chiricahua and Mescalero Apaches now living on the Mescalero Indian Reservation, and to complete rather full studies of these two tribes.¹ The length of the stay per-

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¹There were differences in territory, dialect, and in some objects of material culture between the Mescalero and Chiricahua tribes. The ideology and conceptual life show marked similarities, however, and there are no essential

mitted inquiry into facets of native life and thought which otherwise must have been slighted or must have remained unexplored by me. It was possible, for instance, to consider the question of ambivalence as it evidences itself among these people, and it is hoped that, by assembling in this paper a few of the data thus brought to light and remarking their implications in context, further work towards the illumination of this important problem may be stimulated.

At one time during my stay on the reservation, a very able and intelligent informant who wished to give me the fullest possible understanding of the culture, undertook to explain native customs and beliefs for me. This Apache offered a number of native rationalizations pertaining to various rites and practices, and then bravely started to explain the peculiar belief that an Apache who possesses supernatural power and successfully practices the rite connected with it for any length of time, finally will be forced to sacrifice a close relative or permit himself to die. My informant floundered in a web of ambiguities for a few minutes and then had to confess that the whole matter was not clear to him. He could see, he said, why the power of some outsider, one who wished you ill perhaps, was to be feared; but why the power of a relative, one who could refuse you nothing in everyday life, should be a source of terror, he was unable to explain. This Apache was manifestly bewildered by the glaring inconsistency in the attitude toward kin upon which he had stumbled. On one hand he had been urged throughout his life to assist, and, in turn, to depend upon his relatives in all matters, to support them, whatever the consequences to himself, and even to avenge all wrongs inflicted upon them. Yet it was also within the traditional pattern to believe that these same people become, *par excellence*, a source of morbid fear for him. This contradiction or conflict in emotion and attitude towards the same person or group of people which this native sensed, we readily recognize as an expression of ambivalence.

The example cited is one of the most striking cases of contradictory attitude in respect to the same person which Apache culture affords and is the one which would, perhaps, be most noticeable to the native. But this instance by no means stands alone. The cultural

differences so far as the problem of ambivalence is concerned. For the purpose of this paper, then, the two tribes are treated as a unit.

forms are marked, at many points, by unmistakable evidence of such contrary emotions, and whole complexes are liberally tinged with such mixed feelings.² A conspicuous affirmation of the last statement is the entire complex which has to do with death and the disposal of the dead. It will repay us to turn to this set of practices and beliefs.

One of the most impressive elements of Apache burial is the dispatch with which it must be conducted. Whenever possible burial takes place the same day on which death occurred. If this is impossible because the deceased has died in the evening, the burial always takes place the following day. The time during which the living and the dead are in contact is reduced to a minimum, a logical procedure in view of the dread sickness it is believed can be contracted from the dead, from the sight of the corpse, or from the possessions of the deceased.

As the last statement may suggest, no time is lost in disposing of the personal possessions of the dead. A certain number of his belongings are taken along by the burial party and interred with him; the rest are burned or broken to pieces at the spot where death took place. It is incumbent upon a dead Apache's relatives to dispose, in this way, of everything which had been used by him or had been in close personal contact with him. Even articles owned jointly with other members of the family, if they had been used to any extent by the deceased, had to be sacrificed. To retain any of these objects would bring back the ghost; the dead would return to claim his possessions. In any case the retention of some personal possession of a dead man would be sure to act as a reminder of him, and to think of the dead is one way of inviting the presence of the ghost and of subsequently succumbing to the serious "ghost" or "darkness sickness." In keeping with this fear of the return of the ghost to claim objects recognized by him, it is considered dangerous even to cherish presents given one by the deceased before his death.

²The writer is now doing anthropological field-work among the Jicarilla Apaches, members of another tribe of Southern Athabaskan-speaking people. Most of the evidence for ambivalence which will be cited for the Mescaleros and Chiricahuas has been duplicated in the Jicarilla work, and some elements not yet discovered elsewhere have been found as well. However, since the Jicarilla work is still in progress, this paper will be concerned with Mescalero and Chiricahua data only.

Not only are the possessions of the dead relative destroyed or buried, but the very dwelling in which death took place is razed as well. The framework is usually burned, but even if it is not reduced to ashes, one may be sure that no Apache will enter a deserted house or use wood from it unless he is very certain that no death has occurred there. Nor does the destruction of the dwelling pave the way for a new, uncontaminated home on the old site. The family moves immediately to a new locality, one that will not be conducive to memories centering about the departed.

The effort to efface the memory of the dead relative goes much further. Those who assume the unwelcome task of dressing the corpse and burying it, burn, upon their return, all the clothes they wore while performing these duties. They also bathe their bodies in the smoke of a sage called "ghost medicine" which is thought unpleasant to ghosts and efficacious in keeping them at a distance. In fact, all members of the bereaved family are likely to "fumigate" themselves in this manner and to resort for some days to various devices which are considered useful in avoiding dreams of the dead or in warding off the visits of ghosts. Such practices consist in crossing the forehead or bed with ashes, or hanging some crossed pieces of "ghost medicine" above the head before retiring.

At the grave, just before their return, the members of the burial party take a final precautionary measure. They brush off their own bodies with green grass which they then lay at the grave in the form of a cross. The conception is that when this is done, any danger of falling victim to "ghost sickness" will be brushed away and left at the grave of the dead.

No more people than are strictly necessary to carry the possessions and prepare the grave participate in the burial. The site of the grave is not discussed thereafter; ordinarily no one would ask about the location of the grave, and no one would volunteer such information. One Apache told me that he would like to know where his father was buried, but that he would hesitate long before seeking that information from any of the three men, one of them his older brother, who had comprised the burial party. Another man, whose mother had burned to death in his absence, not only did not know where the body had been laid, but did not even know how the accident had occurred. Only the most general facts of the tragedy

were told him upon his return, and he did not feel that he should disturb and grieve his relatives by asking for more details.

After the foregoing it is almost unnecessary to add that the grave was never revisited and that anyone found lingering around a grave site was suspect of witchcraft. As among so many other peoples, graves and the bones and possessions of the dead play a prominent rôle in ideas concerning sorcery.

To this point we have been primarily concerned with the measures taken to erase from the scene any material reminders of a dead relative and to avoid illness which may derive from actual contact with or sight of the corpse. But there are quite as many steps taken to obliterate less tangible reminders of the loss the family has suffered, and it may be instructive to turn to some of these now.

There is, first of all, a strong taboo against mentioning the name of the deceased. If it becomes necessary, for any reason, to mention his name, a phrase meaning "who used to be called" must be added.

As a result of this taboo it proved extremely difficult for me to obtain reliable genealogical material. It was considerably easier to persuade Apaches to discuss and reveal rites and ceremonies than it was to bring them to the point of talking freely of the kinship ties which had existed between them and those now dead. After considerable effort I felt sure that I had obtained a very complete genealogy from one of my best informants. This was a man who went to some little trouble to provide me with ways and means of obtaining valuable ethnological material. Once when we were passing a certain locality my friend chanced to remark that he had formerly lived near-by. When I asked him why he had moved he became glum and silent. I learned later from other sources that a child of his had died there. No mention of that child appeared in the genealogy.

Another informant, so willing and precise that he would make me read back pages of notes to him if he suspected me of missing and omitting a detail, gave me what he assured me was his full genealogy. Later I had reason to believe that he had omitted mention of a maternal uncle, a man who had been very close to him and could not easily have been forgotten. When I questioned my informant concerning this lapse he offered a perfect Apache explanation. The man was dead, he said. Moreover, he had died a horrible death.

Under the circumstances how could one be expected to call his name?

The unwillingness to utter the name of the recent dead is a characteristic true of all members of these two tribes, whether they are relatives of the deceased or not. With the passage of time the taboo becomes less binding upon non-relatives. Not so in respect to the relatives, however. For them there is no diminution of the strength of the taboo, and others, no matter what they may do elsewhere, must strictly refrain from any mention of the dead in the presence of these relatives. In fact, nothing is more insulting, provocative, and certain to precipitate conflict than to call out the name of a dead man in the presence of his relative. A surprising number of feuds between families have had such an origin or include such an episode in their histories. In the case of one feud which I recorded, a drunken man went to undue lengths to stir up trouble. For some time he abused the man who had aroused his anger, but without causing a conflict. Then he hit upon the sure method of shouting out the name of a deceased relative of his opponent. The other man had been earnestly trying to avoid a fight to this point. Instantly his attitude changed. "You did not have to say *that!*" was his reply, and he reached for his weapons. In the battle which followed seven men lost their lives, and the hate that was generated then persists among the descendants of the combatants to this day.

There is a Mescalero story of considerable dramatic expression which neatly mirrors the Apache feeling towards the utterance of the names of the dead. The tale recounts how some Chiricahuas, led by a certain man, raided a group of Mescalero camps. Among the prisoners taken were an old woman and a young boy, her grandson. The old woman was a robust spirit who possessed a ready tongue. She proceeded to give her captors a sound lashing with it and singled out the leader for a number of uncomplimentary remarks. She succeeded in infuriating him and brought a death sentence to herself. Her grandson escaped and made his way back to his people. He swore that some day he would meet the murderer of his grandmother face to face. When he grew to a warrior's estate he started out on his mission of revenge. He penetrated into Chiricahua territory and wandered from camp group to camp group seeking his enemy. Finally he found the camps which this man controlled. That night he sat in the tent of this chief and listened while many

men told stories of their past exploits. He stayed until this chief recounted the story of the raid he had led upon the camps of the Mescaleros. Then the young man left and procured a lance. He entered the dwelling again. By this time the other men were leaving. The Mescalero waited until all were gone and he was alone with the chief.

"Won't you tell the story of the raid on the Mescalero camps once more?" he asked.

The chief politely began his recital again. When he paused the young man asked, "And were any killed?"

"Yes, an old woman."

"Do you remember what she was called?"

"Yes, I believe they called her ——."

The name was the last word he ever uttered. The Mescalero youth had deliberately led the Chiricahua chief to commit this foulest of insults, and when he heard the name of his dead grandmother, in the cold fury that possessed him, he sent the lance through the older man's heart.

Just as the calling of a dead man's name within the hearing of his relative is accounted the gravest of insults and acts of hostility, so it is considered a graceful compliment to the family of the deceased and to the memory of the dead to take elaborate precautions that the name be not called. In cases of the death of prominent men who have been named after some object or animal, that animal or object is given an alternative name or another name. Thus when a Mescalero leader named Beso (from the Spanish *peso*) died, everyone was obliged to say *dinero* instead of *peso*, especially when within earshot of members of the dead man's family. Again, when a tribal leader named Natsili (the native term for cow) passed away, it became the practice to call cows *muhn*, a word coined in imitation of the sound a cow makes. Though the death in question took place many years ago, the substitute word is much used today.

The concern with names at death extends to the children of the deceased too, or children in his family. Ordinarily the names of all the children are changed when a death occurs in a family. The reason given is that the deceased called the children by these names and to repeat them now would be to evoke painful memories of the one who is gone.

There is another practice which utilizes similar reasoning. If an Apache called two relatives by the same kinship term, and one of these relatives dies, for a long time afterward he will refrain from using this term to the survivor. To use the term formerly addressed to the one who has died will awaken memories of him and deepest grief, it is felt.

It is interesting to note that the very existence of death cannot be allowed terminological sanction. The verb that connotes the coming of death is used only in connection with animals. Of a person the most that can be said in everyday speech is, "He is gone."

We have noted before, as in the case of the taboo against calling the names of the dead, that a breach of that taboo is counted an act of bitter hostility. The hostility is felt to be directed against the surviving relatives, as we have seen, and it is also accepted as a slur and insult against the dead. A great deal of the care exercised when relatives of the dead are present is to guard against any antagonism that may occur if they should feel that the memory of their dead were being sullied. It becomes increasingly important not to incur the enmity of powerful families for such offenses, for they can cause trouble in proportion to their numbers and influence.

Not long ago an unpleasant incident occurred on the Mescalero Reservation which had its root in the feeling of a woman that an affront was being proffered to the memory of her dead relative. The previous year, during an annual four-day ceremony, her close relative had died on the ceremonial grounds. Now it was proposed to hold the ceremony in the same spot. This woman protested, and when she was ignored (for she had no powerful family to support her) she threatened that something dreadful would happen to those responsible. Not long after the conclusion of the ceremony a death occurred in one of the families which had been prominent in conducting the rite. Since the aggrieved woman has a rather unsavory reputation and had made an open threat, the feeling was and is that she practiced witchcraft and caused death to avenge the memory of her relative. Under aboriginal conditions it is very likely that the event would have resulted in bloodshed.

Another evidence of the jealous care with which relatives guard the memory of their dead is the strict scrutiny which they apply to the mate of the deceased. Among these two Apache groups, mar-

riage is more of a contract between families than between individuals. All close relatives combine to provide the young man with the gifts he offers the girl's family as an inducement to the union, and his relatives have much to say concerning the wisdom of the young man's choice. Likewise, when the young man's messenger or "go-between" delivers the proposal and displays the gifts, all close relatives of the girl come together and reach a decision on the answer to be returned. If the offer is accepted the presents are divided among these relatives of the bride-to-be. This close identification of the fate and fortunes of any child with his entire body of relatives is one of the most important conceptions which underlies Apache life. At every turn the Apache child is guided and sponsored, not alone by his parents and immediate family, but by the larger body of blood kin. When the adolescent girl must be conducted through a long and expensive rite, for instance, it is her family, in this extended sense, which defrays the expenses, furnishes the labor, and lavishly entertains the large number of guests. At no time do these relatives disappear from the background of the individual's life.

It is in consonance with the native pattern, therefore, that when an Apache marries, he accepts a set of obligations to the relatives of his mate. These bonds and duties are too numerous and complex to discuss here; our special interest is to note that these obligations are by no means abrogated at the death of the husband or wife. The survivor is still responsible to the family of the deceased and is less of a free agent than ever before. If the dead mate has unmarried siblings or cousins of suitable age and sex, one of these may be offered to the survivor, and there can be no refusal. If the family has no substitute available, the survivor is nevertheless not free to marry when and whom he will. A year of decorous mourning must be observed, and after that he must formally gain his freedom from these people. Thus it may be seen that the family of the dead person has considerable control over its in-law, at least during the period of mourning. And these rights are vigorously used to the end that the surviving member of the union shall not indulge in any conduct that might reflect discredit upon the memory of the dead. Any undue levity, loose conduct, or exuberant interest in social affairs will bring the offender a good scolding at the least. In former times offenses of this nature were punished by cutting off the tip of the nose.

The insistence that nothing be left as it was before a death, lest it act as a reminder of the bereavement, finds expression in all departments of native life. There is the practice, for example, of never leaving the bedding as it was when in use, when camp is to be broken. If death should occur and the individual should not return to that place, the sight of his bed as last used by him would only bring sorrow to his relatives.

These attitudes are reflected in the ceremonial complex, moreover. Ceremonies usually continue through four days or nights. If a death occurs in any near-by camp after the rite has begun, when the news is brought to the officiating shaman, he terminates his work at once. The ceremonial gifts which had to be given him before he could enter upon his duties he returns to the donors. Now all is as it was before, and after the passage of from one to four days the whole ceremony is repeated from the beginning.

Despite the brevity and condensation of this description of Apache customs concerning death rites, it should be reasonably clear that there is a whole set of important practices designed to suppress and obliterate all mention and memory of the dead relative. In introducing this material I have termed it an indicator of ambivalent attitudes. In the Freudian sense this would suggest that the struggle to remove the possessions, the name, even the memory of the deceased from consciousness, is nothing else than an elaborate attempt to guard against the fear of the dead which results from the unconscious hate and resentment felt for this person during his life.

It may be asked why such an interpretation, so far-fetched at first thought, need be accepted. The Apaches themselves say that there is no deepseated mystery concerning the genesis of these acts and rites. They will tell you that an Apache loves his kin—a great deal more than the white man cares for his relatives, they may add significantly. To dwell on the memory of the dead would be to emphasize the loss and deepen the grief. Therefore they engage in the practices which arouse our curiosity.

The reasoning sounds honest and logical and might be acceptable if it were not for another congeries of attitudes and practices of an altogether different flavor which exists at the time of death, side by side with those we have already noted. These last are direct and vehement expressions of grief and evidences of mourning which are in

no way subdued, curbed, or repressed. When an Apache learns of a close relative's death, he tears the clothes from his back. The women wail, the men cry openly and unashamed. Close relatives cut their hair, an act which alone will mark their bereavement for at least a year. For some time they wear only such clothing as is absolutely necessary for minimum warmth, and for a generous span of time they shun the dances and festivities. Often relatives mourn thus for a long time. An old woman, whose husband has been dead many years, still can be heard bewailing her loss occasionally. Another woman, though she lost her husband soon after marriage and has had many proposals since, has remained single out of genuine grief and regard for her former mate.

Without laboring the point or extending the discussion, enough has been said, perhaps, to indicate that contradictory practices mark the Apache rites of death; there is the tendency to publicly signify grief and attest to the loss, and an elaborately socialized machinery for banishing that grief and the objects and words which might awake it.

But to state the Freudian conception, namely, that these two sets of practices result from ambivalent emotional attitudes toward the dead; that one set derives from the affection and regard which normal human relations sponsor, and the other from unconscious dislike and fear that are no less poignant and real; to state this, merely, is not to prove it.

Indeed, it could be most reasonably argued that it is gratuitous elaboration and special pleading to conjure up fear and unconscious hate as the stimulus for the practices which serve to eradicate mention and memory of the dead. It might be insisted with as much cogency that both sets of practices can be reasonably traced to one source, the affection and regard for the dead relative. It takes no great imaginative powers to suppose that genuine love for the dead relative could expend itself through more than one channel, and that the actualizations of these emotional flows could even appear contradictory. It is intelligible that under the impact of a deeply felt loss there would be the impulse to cry out and testify to grief, and no less the realization that the future must be faced alone, that the living must somehow carry on, that memories which weaken without aiding must be laid aside.

With these two interpretations possible from the data, the inquiry is reduced bluntly to this question: Is there any concrete and conclusive evidence in Apache culture of avowed fear of the dead, and especially of dead relatives, which might give body and validity to the hypothesis that the avoidance of the dead, of their graves, their names, their possessions, and their memories is attributable to fear rather than to regard?

Fortunately the study of Apache culture affords an unequivocal answer. Fear of the dead, and fear of dead relatives particularly, does not have to be inferred. Instead its existence is asserted and emphasized by the natives. This fear is not merely an amorphous dread which seizes individuals in varying ways and must be relieved according to personal requirements. It has become formalized into a body of beliefs and concepts, and these have been woven into the fabric of the ceremonial life.

Now Apache ceremonial life, while it has other functions, is principally concerned with the healing of the sick. The gravest illnesses are contracted, it is believed, from contact with certain animals, such as bear, snake, and the like, or from being frightened or endangered by certain natural forces, such as lightning. Each of these sicknesses has its own characteristics and symptoms, and such diseases can be cured by shamans who have supernatural power from, and therefore considerable influence over, the animal or agency which has caused the illness. But there are also some people of malevolent disposition who have likewise had supernatural experiences with these potent animals or forces of nature and who have gained a ceremony and considerable power thereby. These are the witches, who manipulate their power for evil often, and are the ultimate source of much sickness and death. The witch who "knows" Bear may cause his enemy to suffer from "bear disease." His victim's sole hope is to command the services of another who "knows" Bear, who uses such power for beneficent purposes only, and whose power is stronger than that of the witch. It is likewise possible for a person to use his ceremony for the benefit of some, yet seek to harm others. He may be a shaman at one point of his career and a witch at another. He may be both at the same time.

With this hint of background we may proceed to the expression of the fear of the dead in Apache society. The fear, in obedience

to the native pattern, is expressed in terms of sickness, and the sickness, eloquently enough for our argument, is expressed in terms of fear.

The particular illness attributable to persecution by the ghosts of the dead is known by three names, "ghost sickness," "owl sickness," and "darkness sickness." Ordinarily the Apache will not dare to use the words "ghost" or "owl" and will therefore give the last name only. The term "ghost sickness" is self-explanatory. The disease is also called "owl sickness" because the ghost is said to come back in the shape of an owl; owls are the ghosts of the departed. The blackest omen of which an Apache can think is the hoot of an owl around camp. The proximity of the bird, especially shortly after the death of a relative, evokes the greatest terror, and is often sufficient grounds for the requisite "ghost" or "owl ceremony." I could fill many more pages with native accounts of the dread and despair inspired by the appearance of the owl around camp or by its call. Ghosts are said to trouble people most often at night when it is dark, and most shamans who cure "ghost sickness" will not conduct their ceremony except at night. For these reasons, and also because a person afflicted with the malady is especially nervous and easily frightened at night, the name "darkness sickness" is the approved euphemism for the disease.

It is of special interest to note that the disease always strikes "from the head to the heart." All its symptoms are those of fright and include irregular beating of the heart, a choking sensation, and faintness at first seizure. As long as the illness lasts the patient suffers from excessive timidity, much trembling, weeping, and headache.

It must not be supposed that none but relatives of the dead fear the return of the ghost, or that all "ghost sickness" is contracted from the spirit of a dead relative. As a matter of fact, there is a special variety of "ghost sickness" contracted from the shades of whites and Mexicans. For an Apache, even today, to go near a graveyard, though none of his own relatives are buried there, is thought to entail considerable danger, and will be followed by bad dreams and nightmare.

How his rest and peace of mind were disturbed by the ghost of an unrelated rival who had died shortly before was described to me by

one elderly Chiricahua informant. One night when he was drowsy, he was suddenly frozen with horror to observe the approach of an owl to his bedside. The bird assumed the form of his deceased foe, then, and made the terrifying inquiry, "Why don't you die?" My informant successfully routed his tormentor with the answer, "Because I don't know any false ceremony." But he was considerably shaken by the experience and now sleeps well protected by ashes, "ghost medicine," black-handled knives, and all the objects for which ghosts have a particular distaste.

This informant admitted that he had often questioned, during the life of the deceased, the truth and value of the latter's ceremony and power. The experience, then, evidently resulted from a fear of the resentment the ghost of the departed might be expected to feel. We shall have more to say below about this correlation of fear of the dead with the actual events, clashes, and enmities of everyday life.

But it is necessary to emphasize that although ghosts of non-relatives may and do cause fear and sickness, it is far more common that the disease be the result of an encounter with the ghost of a deceased relative.

In the first place it is noteworthy that the most elaborate precautions against the appearance of a ghost are entered upon by the close relatives immediately after an Apache's death. Since these relatives have most contact with the corpse and the possessions of the dead, this is quite to be expected. Nevertheless, the end result and the general feeling are that the relative has more to fear from the ghost than anyone else.

Again, it is a matter of interest that most ghost ceremonies are held soon after a death in a family, and that the patient or patients are usually relatives of the deceased.

I had the opportunity of observing the circumstances attendant upon a whole cycle of ceremonies conducted over the relatives of an Apache child who died not long ago. The child was left alone during a brief absence of the other members of the family. He made his way to a near-by creek and was drowned before anyone returned. There is no doubt concerning the deep love of the bereaved mother for her child and the genuine depth of her sorrow. But another element enters into the case, the possibility of self-reproach on the part of the mother for having left the child alone, and the realization

that the dead child might have a just grievance against her. The woman became violently ill and evidenced every symptom of "ghost sickness." Her body shook, and she cried continually, "her heart almost stopped beating," she fainted often and could not eat, she bit her tongue until it became necessary to insert a stick between her teeth. A four-day ceremony was arranged at once, and she was relieved for the time. Two other ceremonies have been conducted on her behalf since then, and an older daughter who also shared the responsibility of caring for the child has seen fit to undergo such a ceremony too. Again we notice that this unusual round of sickness and ceremony shows marked relation to the circumstances that attended the death.

There is another impressive indication of the close nexus between relationship and fear of ghosts and owls. The hooting of the owl is accepted as speech in the Apache language which can be understood if one listens closely. The owl, according to my informants, has many unpleasant remarks to make to its uneasy hearers. It has been known to make the hair-raising statement, "I'm going to drink your blood." But more often the words of the owl have to do with its relationship to the one it is addressing. "I am your dead relative"—this is the most common sentence discerned by the tortured imagination of the Apache when the owl hoots near-by.

The owl is also prone to give ominous warnings concerning relatives. The bird is not infrequently heard reporting such melancholy news as, "All your people (relatives) are going to die." One woman, after the departure of a war party, heard this message repeated over and over by an owl, "I used to be one of your relatives." The next day the men returned without her son; he had been killed.

The owl, according to one Apache, "represents the spirit of a person" which "works by entering the body of an owl and exercises evil influence in this way." "That man is already dead and comes back. He turned to owl." "It's a ghost. It comes out of the grave, and it goes back." These are representative dicta of the natives concerning the owl.

From this equation of ghost with owl flows the belief that the ghost can appear as an owl and then transform itself at will into the semblance of the figure it bore in life. And it is possible for a

shade of the dead to appear and, upon being accosted, to change into an owl and disappear.

Now to see or hear an owl is unlucky and harrowing enough, but to see the form of the ghost as you knew him in life, or, worse still, to be able to distinguish his features, is well nigh fatal. It is the general consensus of opinion, backed by the authority of many cases, that the person who can discern the features of the ghost before him has not long to live. A bitter and long continued personal feud which grew out of this belief was called to my attention. One man insisted that he was able to have communion with certain dead people. His opponent took violent exception to such reports, appealing to common sense to judge whether the first man could have survived such experiences if they had been actualities.

It is true that the ghosts of the unrelated may appear in the semblance of human form, and I have recorded a few such cases. But it is more important to remember that, although experiences and encounters are theoretically possible with the ghosts of any dead persons, they take place, excepting a very few instances, with the ghosts of deceased relatives only.

There are innumerable tales of encounters with ghosts, or with owls which assume human shapes. His wife, one man told me, once noticed a human figure approaching. As it neared her it turned to an owl and flew towards her head. The woman tried to fight off the bird and then fell in a faint. Upon his return her husband found her trembling and shaken. It was only because he was an owl shaman himself and could promptly perform the proper ceremony that her reason and life were saved.

Another time a man was approached by the figure of his dead wife. "Come with me, I'm living in a better world," she told him. Neighbors shook their heads sadly when he reported the incident the next morning. Within a short time he, too, was dead.

An old man dreamed of being led to the Apache after-world, a place under the ground. There he saw many of his relatives and friends, exactly as he had known them in life. "He didn't last long after that," the tale always ends.

Still another old man, riding back from town, distinctly saw his old mother, dead long before, following him astride the very horse she rode in life. His own demise followed shortly.

A favorite ghost experience story concerns a man who was visited at night by his recently deceased wife. He heard a knocking on the door several times, but each time, when he went to look, there was no one around. Finally he grew frightened and picked up his gun. Just then he thought he heard a rapping on the window. "He looked there and was pretty sure he saw his wife's face. He tried to talk to her. He said, 'Come in at the door; if you have anything to say to me let us see each other face to face.' But no one came in. After a while he heard the rapping again. This time he shot, and he heard groans. He was afraid to go out until morning. And when he went out the next morning, he found a dead owl lying by the window."

There are a number of revealing elements in this last narrative. First, there is the fright and panic which take possession of the man when he suspects he is being visited by a ghost. Then there is the suggestive circumstance that he should interpret the shadow on the window as the features of his dead wife. Finally, there is the very interesting remark with which he addresses her, ". . . if you have anything to say to me let us see each other face to face." That is such a challenge as a man might make to one whom he suspects has designs of coming upon him by stealth and doing him irreparable damage.

Even though the evidence which has been offered is but a fraction of what could be presented, I hope that enough has been said to establish the connection between the taboos directed against the dead and fear of the dead. It should be abundantly clear, too, that the burden of both the taboos and the fear falls primarily and with unremitting force on the relatives of the deceased.

But if the Apache must guard against the ill-will of the dead, he must guard himself just as sedulously against the machinations of the living. Something has been said above of the duality of supernatural power as conceived of by the Apache, and of the possibility of wielding such power in the spirit of malice and revenge as well as for purposes good and holy. Granting the existence and duality of supernatural power, there is nothing obscure about the basis of fear of witches. A case will illustrate this. I was once talking to a man about charges of witchcraft which had been directed against X. The man with whom I was talking then admitted to me, "Well, I'm a

little afraid of X myself." He told me how he and X had opposed each other in a dispute which nearly ended in blows. Knowing X's reputation for possessing much supernatural power, and believing him to be thoroughly unscrupulous, he wondered whether X's resentment might not spill over into supernatural channels and work some immense disaster to him. In this case there was a cause for revenge and a subsequent outgrowth of fear. In all cases of ordinary witchcraft, some reason for the murderous supernatural attack is advanced, if it is only that the witch was jealous of the sick one's good looks or envious of his promising career. When a shaman sings over a patient and determines that his client is witched, he very often describes what led the witch to such extremes. "Do you remember when you attended that dance two years ago?" he might ask. "You gave something to drink to everyone there but one woman. You did not know it, but you forgot her and she was very angry. She determined to get even for this insult. She has waited till now so no suspicion will fall upon her." The conception is that always, if one can but put a finger on it, there is some injury or insult which will account for recourse to witchcraft.

But the Apache is not only beset by fear of the supernatural power of those who have reason to hate and harm him; he must also face the possibility that the supernatural power of those who are closest and dearest to him, the supernatural power of his own relatives, may be utilized to effect his very death. The reader will remember that we began our paper with this very paradox. At that time it seemed an insoluble contradiction which puzzled my willing Apache informant as much as it puzzled us. Now we are in a position to see the concept as one more mark of the underlying fear directed towards relatives. We have already dealt with the fear of the ghosts of the dead felt by living relatives. Now we have to consider the Apache's fear of the supernatural power of his living relatives.

The fear is based on the peculiar belief which already has been introduced. It is asserted that if one who has a ceremony from a certain power, heals and prospers by means of it for many years, the time will come when his power will remind him of the benefits bestowed, of the long life that has been permitted him, of the guidance and security that have been granted. Then the power will ask payment in return for all this help, and, coming to the point, will an-

nounce that the payment must be the sacrifice of a child or close relative of the shaman. To refuse is to sign one's own death warrant; if the relative does not die, the shaman must die in his stead. Thus there is the saying, "He sacrifices his relative to prolong his own life."

It must not be thought that the shaman always acquiesces to such a demand. I have recorded cases where the shaman, in an impassioned address replete with charges of fraud and deception, literally "bluffs" the power out of its purpose. There are other stories of resolute shamans who defied the powers rather than comply with such suggestions, and who allowed themselves to be taken instead of the intended victim. But ordinarily the shaman chooses to preserve his own life.

The person sacrificed to the power does not die a spectacular death which would indicate the source of the summons. The shaman's brother might fall in battle soon after the power had spoken. Or the brother may die as a result of some slight accident; a scratch may become infected. A child of the shaman may pass away from what appears at first to be a familiar, curable malady. The shaman's sole complicity in the matter is to allow the tragedy to occur; to remain silent while the power takes its toll. Years later another shaman may see in his ceremony what happened and report the circumstances.

It is customary to think of a tribe as having only a few shamans, and so it might be thought that this concept of sacrifice of relatives touches a very few members of Apache society only. It should be mentioned, therefore, that under aboriginal conditions practically every Apache realized a supernatural experience and obtained a ceremony from some source. It may have been "a little thing," a ceremony derived from some small mammal or even from an insect, but it acted as a guardian spirit for him; it was "something to live by," something to which he appealed in danger, sickness, and distress, and in turn this power was likely, in the shaman's old age, to make the demand of sacrifice.

My first intimation of the fear of a relative's power came when I was discussing problems of relationship with a middle-aged Apache. He started to boast of the unrestrained comradeship which existed between a certain uncle and himself. As evidence he cited the unaccustomed daring with which he could remark to this relative with-

out reproof, "A——, when your time comes don't pick on me, let me die a natural death." Pressed for an explanation of this cryptic statement, my informant revealed the belief as I have outlined it above.

The extent to which the concept finds its way into jest, even, is an indication of the degree to which the Apache mind is preoccupied with the problem. The father of a young Apache claimed to have no power, but, upon finding an eagle tail feather, one such as is often used in ceremonies, he brought it home. His son had much sport at his expense as a result of this. He would say to the older man, "Now when your time comes, go yourself. You've been through life and you are old. But I'm young yet. Let me live and enjoy myself."

To most Apaches, however, the fear of the power of a relative, and the worry lest one be called on to sacrifice a relative, are no matters for mirth. One old man tells how a relative approached him and asked him to learn and take over his ceremony. The man to whom the proposition had been made gave a prompt refusal. He said, "Get out of here with your power. You'll probably substitute me, and if you don't, I don't want to have to substitute someone else."

Many of the stories I have recorded have to do with this "payment" of relatives to a power. In one tale, a mother sacrifices a daughter to save her own life. In another, a shaman complies with the demands of his power to the extent of allowing a brother to be taken. The summons comes again in later years, but this time he refuses tribute. His own sickness follows, and he tries ceremony after ceremony in hopes of a cure. But his power is not to be denied, and he dies in spite of frantic efforts of fellow shamans to save him.

The smooth flow of the traditional stories sometimes fails to impress one with the stark reality of such fears; a personal experience such as I am about to relate is likely to leave a more indelible appreciation of their strength. I was once working in his tent with an Apache well above middle age, when I happened to glance out of the doorway and saw his father, a very old man, approaching on horseback. I innocently said, "Here comes your father. Shall I call him over?" I was not a little disturbed to hear an emphatic, "No!" uttered in a hoarse, strained whisper. Instead, I was di-

rected, in that same tense tone of voice, to stand at the door and describe the old man's movements. "Where is he now? What's he doing? Is he going away?" These were the questions thrown at me, and I answered in some bewilderment. As it happened the old man was just passing through his son's field on the way to another camp. I reported his departure and turned to demand an explanation of such unusual conduct. My friend was perspiring freely and breathing heavily. He talked readily enough about the matter. "I don't mind admitting I'm afraid of the old man," he said. "He's got all kinds of power. They say he has done a lot of good with it. Well, maybe he has done good years ago. But I haven't seen any good that he's done in the last ten years. I don't like to have him monkeying around this camp."

It is decidedly easier to establish the existence of ambivalence in Apache society, and to advance material concerning the fear of the ghosts of dead relatives and the power of living ones, than it is to account for and explain all this. One explanation has already been offered us. It is Freud's suggestion "that ambivalence, originally foreign to our emotional life, was acquired by mankind from the father complex, . . ." (1).

There are a number of objections to such a view. In characteristic Freudian manner it would derive ambivalence from the omnipotent Oedipus complex, that hypothetical source from which so much is made to flow. Freud would have us believe that Apache ambivalence exists, not because there is anything in present Apache culture to warrant it, but because some of the younger men of a protohuman horde slew their father countless years ago. A "psyche of mass" which no psychologists have been able to understand, explain, or substantiate is supposed to have carried on and preserved the memory of the parricide for the unconscious of our Apaches. Just how this parricide can account for the fear of dead female relatives and the fear of the power of living female relatives it is difficult to imagine, and how this hypothesis can illuminate the equally strong fear of relatives other than parents has yet to be demonstrated. Divorce from reality in the interests of a threadbare theory and insistence upon tying excellent clinical data to the coat-tails of the unconvincing Oedipus story have done not a little to delay the benefits which should result from Freud's contributions.

I have found it more convincing, realistic, and illuminating to interpret Apache ambivalence in terms of forces and elements which actually operate in the society and whose effects are open to observation and evaluation. It will be profitable, therefore, to outline one or two aspects of Apache culture which I feel have a direct bearing upon our problem.

The Mescalero and Chiricahua Apaches were hunting and food gathering nomads ranging over the semi-arid territory which now includes northwestern Texas, southern New Mexico, southeastern Arizona, and the adjoining section of northern Old Mexico. They lived on the wild game and plant life of the region and so were constantly on the move as the fruits ripened in one locality or game seemed more abundant in another. As one would expect from this simple economy and roving life, their artifacts were few and crude. The life was arduous, and productivity was achieved only as a result of earnest effort to which all individuals had to contribute. It was the obligation of the Apache to fit himself for any situation, and, if possible, to excel his fellows in all important pursuits. From his earliest years the Apache boy was taught to develop his strength and talents and to compete with others in tests of endurance and fortitude. Most of the games played by the children were designed to prepare them for the strenuous life of the future. At the time of puberty the boy was subjected to a prolonged ordeal of hardening and training. With this successfully passed there remained a series of four war-path expeditions which he had to attend, not as a warrior, but as an apprentice, and on these trips he was again under the severe scrutiny of the older men who looked for any signs of weakness or incompetence in the youth. Often a relative would arrange to have a distinguished hunter or warrior with much supernatural power perform a ceremony for the young man, so that he would become outstanding in those activities.

The girl, too, was urged quite as much to perfect herself in the women's tasks. In short, the Apache had infinite pride in his strength, his hunting ability, his war-path prowess, and in all the traits and aptitudes which marked him as an exceptional individual.

In the light of the meager technological advancement of the Apaches, this attitude is what might be expected. Each warrior had to know how to make his bow and arrows and to use them effectively.

Everyone had to be trained and encouraged to take his place in the economy and to help win a livelihood from the barren country which constituted a large part of the Apache range. The point I wish to emphasize is the appreciation of himself as an individual of capacity and ability which every normal Apache was likely to develop. This personal independence was manifest throughout life and pervaded all types of activity. If an Apache who was participating in a raid to obtain enemy horses, for instance, lost confidence in the leader of the expedition or was antagonized by the directions given, he would turn for home. The commander was powerless to keep him with the party unless some tie of relationship gave him considerable personal influence. Again, each individual drew spiritual sustenance from his own power, his own guardian spirit, and he was certain that it stood ready to warn him of all danger and protect him in every way.

But while it is true that each Apache had to be trained to cope with the dangers and trials which a nomadic life of hunting, raiding, and warfare imposed, it is certainly not true that he was an arrant individualist, owing obedience, cooperation, and discipline to no group. I should like, very briefly, to outline the composition of a strong unit to which the individual owed deepest loyalty, to touch upon the probable reasons for its strength, and to indicate the part it normally played in the affairs of each Apache.

It is apparent that the economy which the Apache practiced would not support a large population. From the time of earliest records to the present, the two tribes we are considering were few in numbers, and there is no reason to think that their population was on the decrease at the time of first white contact. Yet these two small tribes traversed and controlled a vast territory, necessary to a hunting and gathering people in a locality where soil and climate combine to limit the food supply. It was imperative, moreover, that the people be well distributed over the range; too great a number trying to subsist in a limited area would have soon exhausted the available plant and animal life. Yet some concentration of population was required, if only for defense. As far back as my informants could remember, they had always had invaders to repel. For the Mes-caleros, first it was the Tonkawas, then the Comanches, later the Mexicans and the Americans. Again, a good many of the tasks

which had to be discharged required the assistance of a number of men or women. A raid to obtain valuable horses is a case in point. Enough men had to participate to secure and drive away the animals quickly, and the raid was most likely to succeed when lookouts could be posted before and behind the line of march. When the women were roasting the mescal in underground ovens and preparing this important food for winter use, enough of them had to assist to perform the necessary labor. A large hole had to be dug, quantities of stone and wood had to be gathered for the underground oven, and the heavy plants had to be brought to the pit, sometimes from a considerable distance. Then followed the roasting, the sun drying of the cooked fruit, and the transporting of the food to caches where it would be safe until it was needed. All this consumed some time and effort, and if the food were not prepared in ample quantity and with sufficient cooperation, it was hardly an economical undertaking.

It occasions no surprise, then, to learn that the Apaches were distributed over their range in groups whose size and composition reflected the need for a small, close-knit body of people, sufficient for the execution of the necessary tasks dictated by the simple technology, possessing means of defense and the requisite mobility.

The group which offered these valuable characteristics and which became the central unit of Apache social organization was the extended domestic family. Residence after marriage among the Apaches was matrilocal, and so the extended domestic family ordinarily included an older married couple, their married and unmarried daughters, their sons-in-law, their married daughters' children, and their unmarried sons. The individual dwellings of the several families comprising this group were scattered a short distance from one another; altogether these camps composed a cluster of related families who shared the varied fortunes of battle, feast, work, and ceremony.

It was not uncommon for two or more extended domestic families which were united by marriage to camp near one another. This larger social division I have called the local group, for its members were generally known by a name descriptive of some mountain or natural landmark near which they roamed. This local group represented the greatest concentration of population realized by these Apaches except during brief periods of feast or ceremony. The

Apache's life, therefore, was spent largely in company with his relatives by blood and affinity.

Apache social organization is characterized by other social divisions, but they are of minor importance. There are the band and the tribe. Each is demarcated from the other by a definite range and slight differences of dialect and customs. While their existence was recognized by the native, he was considerably less interested in them than is the anthropologist. The Apache was sensible of the greater uniformity of speech and culture within what we call a tribe, but the Apache tribe was so remotely concerned with the problems and activities of the individual that neither of the two peoples under discussion possessed native tribal names. For all practical purposes, the allegiance and fundamental interest of the Apache were limited to the group of relatives represented by the extended domestic family, or at least by the local group.

It would be difficult to overestimate the unity of the extended domestic family. The women, the mother and daughters, were inseparable. They acted together in the accomplishment of all tasks, whether it were food gathering, food preparation, or the cooking. The mother's home was the center of all domestic activity. All game shot by the father, unmarried sons, or sons-in-law was brought to this domestic hub. Here the daughters aided their mother with the cooking, and then each married daughter carried some of the prepared food to her own dwelling and ate with her husband and children, since the son-in-law must never see his wife's mother.

There is powerful opposition to the disruption of this nucleus of relatives. The son-in-law, as has been mentioned, is bound to his wife's family by ties of avoidance, by special forms of speech and conduct, and these carry with them obligations of continuous economic assistance and absolute respect. He must live near his parents-in-law and work for them. He is always at their command. If the young man should wish to marry a second wife (for polygyny was practiced) it would have to be a younger sister or cousin of his first wife, a member of the same relationship cluster. If his wife died, her relatives could force the widower to take a sister or female cousin of the deceased to wife. In case of domestic discord, the husband could not take easy offense and leave the camp of his parents-in-law without sufficient provocation. To do so would be to

excite the enmity of a large and powerful group, and to be a marked man in its territory thereafter. So much for the structural safeguards which maintain the extended domestic family.

It will be appreciated that an organization of such strength and rigidity must exercise tremendous influence over the children which are reared in its charge. Something of the domination of this body of relatives over the affairs of the growing child has already been indicated when we were discussing the part played by relatives in the marriage choice. In all other matters of import the child is quite as dependent. If he needs a ceremony performed, it usually rests upon the bounty of his relatives to defray expenses. His instruction and training are supplied by relatives, or if outsiders are involved, the relatives pay for such services. Even as a mature person the individual can accomplish little without the aid of his relatives. If he is involved in a personal quarrel he can make little headway with it unless he gains the support of his family against the family of his opponent. The point need not be labored, for, after all, the influence of the extended domestic family is but another facet of the solidarity of this social unit. At marriage, as we have seen, the boundaries of respect, obedience, and economic assistance are widened to include relatives by affinity.

It may be wondered, perhaps, why so much space has been devoted to a discussion of Apache social groupings in a paper supposedly concerned with psychological problems. I think it is sufficient justification to point out that since the ambivalences we are attempting to comprehend are directed primarily against the members of the extended domestic family and the local group, it is plainly necessary (if we take the position that the ambivalences are stimulated by present, determinable factors) to study the common interests and also the probable causes of antagonism which these social units engender.

I am going to suggest the hypothesis that the ambivalences marked by the Apache practice of mourning for the dead and yet barring from sight or hearing anything that may arouse memories of the dead and consequent distress marked by fear, and the equally contradictory convention of avowing affection for kin and yet living in perpetual fear of their power—that these are the result of repressed and unconscious resentment and dislike of relatives which have their roots in the actual circumstances and events of Apache life.

The reader may smile at this. He may think, "Well, it is probably less fantastic to derive ambivalence from unconscious resentment against meddling relatives than it is to seek its meaning in fear of the vengeance of the sire of a primal horde, but, unfortunately, this hypothesis seems as impossible to prove as the other."

The situation may not be quite so desperate, however. After all, it should be possible to determine whether there are tangible causes of antagonism between relatives in Apache culture and whether these points of friction are substantial enough to cause noticeable disruption, and thus find a way into the field notes of the ethnologist. An affirmative answer to these two inquiries would afford much more conviction to my hypothesis. Therefore I am going to subject my hypothesis to four germane questions: (1) Is there any reason, inherent in Apache society, to expect conflict of desires between an Apache and his relative or body of relatives? (2) Do such conflicts occur openly enough and frequently enough to call themselves to the attention of an observer of the culture? (3) Can such open and public conflicts as do occur be definitely correlated with the existence or strength of ambivalence? (4) Agreeing that clashes between relatives may occur because of marked divergences in personalities and aims, how shall we account for the socialization of such oppositions, and their appearances as ambivalences, taboos, and customs to which all, including those who seemingly get along well with their kin, are subject?

In answer to the first question it may be said that while the strength and unity of the extended domestic family were prime necessities for the functioning of Apache culture at its technological level, and while innumerable benefits and kindnesses flowed to the individual Apache from such an arrangement, it also had its suppressive and irritating side. Merely to view the matter theoretically and apart from actual cases, it would seem inevitable that to train the youth to self-reliance and pride in personal achievement and yet leave him so completely under the control of a body of kin, would be to invite dissatisfaction and discord.

Let us now turn to our second inquiry and determine whether the undercurrent of revolt and dissatisfaction that seems theoretically possible really existed. I have abundant reason to believe that the absolutism of control over the individual by older kin or kin in a

greater position of authority is compensated for by a definite tenseness in these relations which not infrequently flares up into acrimonious disputes.

The matter is not one into which it is easy to delve. The important material bearing on the point is not obtained through general questions which aim at understanding the formal outlines of the culture. Only considerable contact with the natives over a respectable length of time, and the establishment of close and friendly contacts can furnish the requisite data. An actual incident of field-work will illustrate the point. During the early stages of my Mescalero research I hired an elderly informant and had no reason to complain of his services. As many others did after him, he gave me the ideal picture of Apache society. He emphasized, as will any reliable informant, the great respect and obedience which the Apache' husband owes to his wife's relatives, and he enumerated the avoidances, polite forms, and usages which mark such observances. No one would have gathered from his sober and consistent discourse, that any Apache would dare slight these obligations or could live among his people if he had done so. About a year later I learned that this same informant, when a young man, had not only violated the proprieties to the extent of seeing his mother-in-law, but had come within an ace of scalping the poor lady. He had led an armed, one-man revolt against his wife's family, bottled them up together in a dwelling, and was only subdued by force in a successful attack from the rear.

Once the surface of things was scratched, it was not difficult to find comparable material which told a tale of resistance of individuals against domination by relatives of blood and affinity. Stories were obtained describing how girls fled from home rather than submit to marriage with repugnant men chosen by their relatives. A number of such unfortunates are said to have been killed by bears. I have the case of a young woman forced into a "shot-gun" marriage by her father. She was so incensed that she refused to see her father any more, and she lived, in contrast to the usual Apache rule, with her husband's relatives.

One elderly informant, after I had absorbed considerable Apache decorum, rather shocked me by asserting that his mother-in-law was "no good." Upon investigation it turned out that the mother-in-law,

after some family difficulties, had insulted him outrageously. Angered at something he had done, and in spite of the strict rule of avoidance, she faced him in the company of some others and freely aired her opinion of him. Another bitter antagonism between son-in-law and mother-in-law was masked behind avoidance and polite forms for some years. Then it culminated in a hand-to-hand scuffle in which the man emerged victorious but with considerable damage to his reputation. Still another mother-in-law, after scrupulous attention to all the forms for a long time, is reported to have assisted her daughter in driving her son-in-law out of camp under a barrage of rocks. Fathers-in-law are sometimes involved in difficulties with sons-in-law too. One informant told me how he had been obliged to come to the aid of an old man who was being abused and man-handled by a husky son-in-law. My collection of such quarrels involves people who stand in just about every degree of relationship to one another. I have information, even, on two clear cases of fratricide. I once listened to a conversation between a son-in-law and his wife's father. The younger man was explaining that he had nothing to do with and greatly deplored the strife which had gripped the female members of the family circle. This person later told me that he had sensed a greater feeling of reserve than usual in the old man's attitude toward him and wanted to make sure that the father-in-law did not attribute the wrangle at home to him. The incident served to acquaint me with the difficulties between the women in this extended domestic family, who were all blood relatives.

The extent to which the dictation of the family over the individual can grow irksome and give rise to resentment was occasionally revealed to me by some little incident. One case which I remember well was that of a man who felt that the rest of his family would take it amiss if he did not attend a ceremony and feast to be held at the camp of his brother. It was plain that he wished to be elsewhere that day, but he submitted to his duty with ill grace, and the family was represented in full force. He told me that he would be expected to be present and lead in the festivities, and that he would have much to explain if he were not there.

Another indication of the deep-seated aversion to the strict discipline to which the growing Apache was subjected by his relatives is the readiness with which the present generation is throwing over

the yoke. The endless homilies, stories, and bits of advice which the relatives visited upon the younger members of the family are no longer accepted in good grace. Backed by government and missionary, the young person is quick to point out that a new day has come and that he cannot be bound to the old customs. One of the most pathetic situations in present Apache conditions is the realization on the part of the older people of their growing impotence in controlling the young and commanding their respect. When I was using a young man as interpreter and an old one as informant the feeling was often made manifest. I was inquiring, of course, into matters of former Apache belief and custom, particulars which many young people will not heed or obey now. The informant was usually quick to take the opportunity verbally to castigate the younger man, and prefaced his remarks with an explanation of the extent to which the youngsters are in ignorance of or disregard what he was revealing.

If we are satisfied that differences between Apache kin can arise and often terminate somewhat violently, we can pass to the next question and ask whether there is any discernable correlation between the expressions of ambivalence and conflicts such as we have been describing above. To answer briefly, I believe that evidence for such a correlation exists. It is certain that when conflict between relatives occurs, the fear of the power of the relative becomes stronger and avowed. The reader will remember the informant who was thrown into such a panic at the approach of his father. It will perhaps clarify the incident to remark that at the time of this scene, these two were opposing each other upon an issue which meant much to them. The father was about to instruct the son's bitterest political foe in his personal power. Before I left the reservation a happier solution was reached. The father had a disagreement with the son's enemy, and it was finally decided that this son and another should learn the old man's ceremony and jointly conduct it. With this change in external affairs the attitude of the man towards his father underwent a remarkable transformation. The fear disappeared, and he gave me to understand that he saw his father's supernatural power in an altogether different light.

A piece of evidence which points in the same direction was related to me by one who was trying to convince me of the existence of

witchcraft among his people. He gave me his own experience. He became sick, had a ceremony performed over him, and was told by the officiating shaman that witchcraft had been practiced upon him. My particular interest in the story is that the witch turned out to be a relative of the sick man. How did it happen that the shaman could accuse his patient's relative of the deed and expect to be believed? Simply because these two relatives had had a violent quarrel, and my informant was in such a state of resentment against his relative at that time that he could sooner believe such a thing of her than of anyone else.

A similar case was that of a woman who was having terrible difficulty in labor at the end of her first pregnancy. At last a shaman was summoned, and he announced the cause as witchcraft. Again, interestingly enough, some relatives were implicated. They had opposed the marriage and treated the husband without consideration, and so the charge was easily accepted.

Once, when I was discussing this problem with a very thoughtful young Apache, I asked him whether he feared that the ghost of his father would return and bother him. His answer was instructive. He said, "No, my father was a sensible man. He wouldn't do a thing like that. Only those who were trouble makers in life would bother you that way." This Apache evidently equated the happy circumstance of being on the best of terms with the deceased during life with immunity from persecution by him after death. On another occasion I heard a similar conclusion stated. A man was being advised to destroy an object which had been given him long before; the donor of the gift had just died. My friend refused to part with the gift, saying, "That one was a good man in life and never did anyone harm, and I'm sure that he won't bother me now."

To sum up the lesson of these last examples we may say that when fear of the ghosts of relatives or fear of the power of living relatives is admitted and avowed, there is a definite correlation between this fear and tangible factors which led these people to oppose and dislike each other. We also note that exceptionally tranquil and satisfactory relations between individuals who are kin diminish the likelihood of the development of such fears, at least in overt form. If these be accepted as valid generalizations a long stride has been taken towards the validation of my hypothesis, for the connection

between ambivalence and experience has been made in these instances.

But, while we have accounted for such manifestations of ambivalence in terms of conflict between the respect which the Apache is taught to tender all relatives and the antagonism and dislike which he cannot help feeling towards some of them, the general problem of ambivalence in Apache society is not yet entirely clarified.

After all, most Apache youths do not attempt to scalp their mothers-in-law, and most Apache mothers-in-law do not stone their sons-in-law. As a matter of fact, the one Apache who did lift some of the hair of his wife's mother's head, lived to pay the old woman more respect, and he settled down to more exemplary conduct after that one outburst, I am informed. While I have listed a number of the more spectacular deviations from Apache canons of good conduct, the truth of the matter is that the ordinary Apache obeyed the mores of his society and behaved himself so as to precipitate little scandal. And yet every Apache, though most were not involved in any open and discernible conflicts with relatives, practiced all the taboos of the death rite and believed in the possibility of their sacrifice by relatives—elements which we have said are indicative of fear and resentment felt towards kin.

I believe we will understand the matter better if we regard the cases of admitted and overt hostility towards relatives as symptoms of a far more general psychic disorder. These are the exceptional cases where friction has been so continuous and galling that the trouble could not subside and be dismissed.

While the occasional explosions furnish valuable clues to the nature of disagreements in the society, such incidents were not the general rule. Nevertheless, I have little doubt that most Apaches at some stage of their careers found the control of their affairs by relatives somewhat at variance with their own plans and desires. There is ample evidence to show that individual marriage choices were overruled and personal inclinations rejected any time they interfered with the best interests of the larger group. But, though the individual often felt circumscribed, limited, and curbed by the decisions of his relatives, he generally subordinated his personal inclinations to their rulings. To do otherwise, to invite an open rupture, would be to cut himself off from future economic and moral assistance. No man stood more isolated and alone than one

who could not depend on his kin to furnish him a haven. It goes without saying that only extreme provocation would induce an Apache to break with his relatives. What resentment he felt when his wishes were thwarted, he swallowed. He acted as did my Apache friend who had little desire to attend the festivities at his brother's camp—he bowed to the inevitable and was guided by tradition and his own best interests. He suppressed the memory of the whole incident, banished it from consciousness, and followed whither the cultural forms led.

But the repression of conscious wishes does not make them less real for unconscious mental life. The longings, which had to be denied that the extended domestic family might flourish, lodged their protest in the unconscious. The resentment, which could not normally be expressed in everyday life if the solidarity and unity essential to the health of the society were to be maintained, emerged in the guise of a mysterious terror of the dead relatives and a puzzling dread of the power of living relatives. The disguise is ingenious. Everything is arranged to mask from consciousness the reality of the ill feeling against the relative. The ghost of the dead becomes an owl, and one can revile the owl, shoot at it, drive it away from camp with good conscience. The fact that it is your relative whom you treat in this manner is obscured by the feeling that you are thus harassing an evil bird. You fear the supernatural power of your relative, but again the grim truth is glossed over. For some unexplained reason his power forces him to act against you. In conscious thought the power is represented as malevolent and blameworthy, and the relative escapes the greater part of the censure. But these sops to the traditions and amenities which guide conscious thought are rather transparent, and, as we have seen, they yield readily to analysis when a total picture is presented.

In conclusion I would say that the material and interpretation offered are an attempt to explain aspects of Apache psychology, conscious and unconscious, from the circumstances under which actual people lived in a society that really existed. Such an approach stands in direct contrast to the general trend of "depth psychology" wherein it has been the fashion to derive psychological phenomena, and even social phenomena, from such remote events and concepts as "primal parricides" and "primordial images." If what has been

written here proves suggestive and worthy of consideration, it is hoped that other and more penetrating studies of mental life from this angle will be accomplished, and that the important relationship between culture and psychology will be richly exploited.

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Dulce, New Mexico

UNE INTERPRÉTATION DE L'AMBIVALENCE DE DEUX TRIBUS INDIENNES AMÉRICAINES

(Résumé)

L'étude des cultures des Apaches Mescalero et Chiricahua montre des attitudes ambivalentes chez les indigènes pour leurs parents. Ceci est marqué dans les coutumes à la mort. Ils ont hâte d'enterrer le parent mort, de détruire toutes ses possessions, et de bannir sa mémoire de la connaissance par une série de tabous. S'ils n'exécutent pas ces choses, ils invitent une maladie appelée "la maladie des revenants." Mais il y a aussi une autre série de cérémonies à la mort lesquelles montrent publiquement la douleur. Le soupçon que la première série de coutumes reflète la peur remontant à une antipathie inconsciente du mort, sentie pendant sa vie, est fortifié par la connaissance que "la maladie des revenants" est surtout une maladie de peur, avec tels symptômes que la nervosité et une grande peur. Les Apaches se méfient aussi du pouvoir surnaturel des parents vivants. Ils croient que le pouvoir d'une personne, après l'avoir servi pendant plusieurs ans, peut le commander de sacrifier un parent ou de mourir lui-même. En contraste avec la coutume de dériver l'ambivalence du complexe d'Oedipe, on le croit plus réaliste de chercher ses racines dans le ressentiment causé par la domination de la forte famille Apache sur l'individu.

OPLER

EINE DEUTUNG DER AMBIVALENZ ZWEI AMERIKANISCHER INDIANERSTÄMME

(Referat)

Ein Studium über die Kulturen von den Mescalero und Chiricahua Apachen weist ambivalente Einstellungen seitens der Eingeborenen gegen ihre Verwandten auf. Dies zeichnet sich durch Gebräuche beim Tode aus. Man eilt sich, die toten Verwandten zu begraben, seine Besitze zu zerstören,

und durch eine Reihe Tabus seine Erinnerung aus dem Bewusstsein zu verdrängen. Die Nichtausführung dieser Gebräuche bringt eine Krankheit mit sich, die "Gespensterkrankheit" genannt wird. Andererseits gibt es eine andere Reihe Gebräuche beim Tode, die ein Zeugnis der Trauer öffentlich ablegt. Der Verdacht, dass die erste Gruppe von Gebräuchen die Angst widerspiegelt, die der unbewussten Abneigung gegen den Verstorbenen entspringt, wird durch die Kenntnis verstärkt, dass die "Gespensterkrankheit" hauptsächlich eine Krankheit der Angst ist, die solche Symptome wie Nervosität und grosse Angst aufweist. Die Apachen misstrauen auch die übernatürliche Kraft der lebenden Verwandten. Es wird geglaubt, dass die Kraft eines Individuums, nachdem sie ihm viele Jahre gedient hat, ihn zur Opferung eines Verwandten aufrufen kann, oder dass er selber sterben muss. Im Gegensatz zu dem Gebrauch der Herleitung der Ambivalenz aus dem Ödipuskomplex hat es sich als realistischer gezeigt, seine Wurzeln in dem Unwillen zu suchen, der durch die Herrschung der starken Apachenfamilie über das Individuum erzeugt wird.

OPLER

SHORT ARTICLES AND NOTES

THE JUDGING OF OCCUPATIONS FROM PRINTED PHOTOGRAPHS

IRVIN CHILD

Gahagan, in a recent study (1), found that, in a simple task of judging occupations from printed photographs, the proportion of correct judgments was significantly above the chance proportion. The present experiment carries on that study with several changes in procedure. It confirms Gahagan's general results, and also gives an indication of the consistency of judgments of occupation from photographs, and negative findings as to the basis of correct judgments.

1. It was desired to make the task of judgment more difficult and to see whether the proportion of correct judgments was still above chance. As in Gahagan's study, photographs of business men, politicians, scientists, and men of letters taken from the news magazine *Time* were mounted individually on cards; the 86 pictures used were a different set from those used by Gahagan. Our subjects were 36 college students. A subject was told what four occupations were included. He was then shown the pictures one at a time in random order, and asked to judge the occupation represented. If he recognized a picture, it was discarded. The chance proportion of correct judgments was 25 per cent; the found proportion (out of 2846 judgments by 36 subjects) was 36.68 per cent or about $1\frac{1}{2}$ times the chance proportion. There are more than 999 chances out of 1000 that this difference is a true one, the ratio of the difference to its probable error being 14.27. For the 36 individual subjects, the proportion of correct judgments varied from 26 per cent up to 53 per cent, all above the chance proportion but none even approaching perfect accuracy.

2. The subject was asked to give his reason for every judgment. He was provided with the following list of possible reasons (a condensed classification of the reasons given by Gahagan's subjects): "(1) Clothing, etc.; (2) Features; (3) Expression; (4) Other reasons." Judgments for which the subject said definitely he had no reason were handled as a fifth category. Among the proportions of correct judgments for each of the five categories, no significant differences were found. Hence there is no evidence that any one basis of judgment is more likely than another to lead to correct judgments; this negative result may, however, be partly due to the element of suggestion in the procedure. The reasons and other remarks made by subjects indicated the existence of numerous stereotyped impressions, some common to a large number of subjects and some more individual.¹

¹The important rôle of common stereotypes in determining judgments of occupation from photographs has been conclusively demonstrated by previous experimental studies (2, 3, 4, 5). These studies have not, however, given any reliable evidence as to the general proportion of accuracy in such judgments.

3. To obtain an indication of the consistency of a subject's judgments, three subjects repeated the experiment after about a month. If the judgments were made purely by chance, 25 per cent of the pictures would be expected to have the same occupation assigned on the two occasions. Instead, the proportion found for the three subjects was 61 per cent, 51 per cent and 47 per cent. A decided consistency is indicated for at least some subjects.

4. In two instances an individual was represented twice in the group of photographs, by two different pictures. Only 25 per cent of the subjects assigned the two pictures of a well-known writer to a same occupation; only 23 per cent of the subjects assigned the two pictures of a certain business man to a same occupation. So in these two instances there is no apparent consistency between judgments of one individual's occupation on a basis of two different photographs.

In both this study and Gahagan's, judgments of occupations from printed photographs show a proportion of correct judgments significantly but not very far above the chance proportion. Such findings do not of course prove that men in the occupations studied actually possess distinctive occupational traits. In fact, our results with different photographs of the same individual tend against such an interpretation by suggesting that the judgments are determined very largely by the nature of the photograph itself rather than of the individual portrayed. The findings do, however, confirm the existence of stereotypes in people's minds and a certain degree of conformity between these stereotypes and the sort of photographs appearing in the press. But it may well be that these very stereotypes frequently determine the sort of photograph printed, and in many cases even the pose assumed by the man who is being photographed for the press.

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SOME COMMENTS ON COLOR PREFERENCE
OF CHINESE STUDENTS

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In a former investigation from the Tsing Hua Psychology Laboratory, which appeared in this Journal under the title "General versus Specific Color Preferences of Chinese Students," Chou and Chen have succeeded in demonstrating experimentally that, contrary to Michaels' contention, color words (Chinese characters) and actual colors are perhaps different in effect in eliciting color preference responses, because, in the Chinese language at least, these color words have abundant shades of associative meaning other than those denoting colors pure and simple. This means that color preference and habitual usage are inseparable; color preference and color association are intimately related. The color-preference order of Chinese students is radically different from any of the racial groups. White and blue are most preferred while violet and gray are least preferred, whereas four of the six racial groups preferred white and yellow least, according to Garth. Color preferences for general and specific objects are radically different. When one prefers one color for a general group of objects, one does not necessarily prefer the same color for the specific objects in that group.

On the basis of above experimental findings, Chou and Chen concluded: We are disposed to distinguish general from specific color preference. When subjects are asked for their preference for mere color words or for colors of a general group of objects, only general color preference is sought for. But when they are asked to specify their preference for colors of concrete objects, this preference is specific in nature. The traditional color-preference test is supposedly a test of only general color preference. But results of our specially devised color-preference tests for Chinese students seem to indicate that general color preference is possible only on the implicit assumption that preferential judgment can be reached only by specific reference either to a general group of objects or to the specific objects within a general group. Since general and specific color preference are positively correlated, we are forced to the conclusion that the so-called color-preference test is a very complicated affair. It is perhaps more a test of the force of color association than a practical tool to obtain racial color-preference scales. In short, color preference is more relative than absolute.

Chou and Chen also pointed out in the same article: There is a need to stress the distinction between color discrimination, color preference, and color association. Failure to note the intimate relation between color association and color preference may perhaps belittle the significance of large-scale testing results in the past, yielding only very unreliable scales of five or seven points for the few primary colors. It is the contention of the present

writer that a thorough, concentrated analysis of the factors conditioning specific color preferences is perhaps far more fruitful than mere efforts to secure various scales of color preference, which, although based upon thousands of individual cases, yield conflicting results very difficult to interpret.

The purpose of Mr. Shen's "A Note on the Color Preference of Chinese Students" is simply to verify a certain statement indicated in the earlier report. The reader is asked to note the following points when comparing Mr. Shen's paper and the earlier one by Chou and Chen.

1. Mr. Shen is still thinking in terms of traditional general, absolute scales of color preferences, so that we may have comparable data with the other races. For this purpose, Part I of Chou and Chen's test is especially suitable, while the aim of Part II of that test is entirely different. Part II is devised to prove the very doubtfulness of belief in *stability of color preference* at all. Color preference, if it has any meaning at all, must be a result of the influence of individual experience, type of living, and other conventional conditions, no matter whether we ask persons to report vaguely in general or specifically with reference to everyday life objects. Certainly not all objects listed in Part II of that test have equal number of choices for preference colors. The idea, however, is to list a fairly random sample of everyday-life color objects to be rated for color preference so that we may have, so to speak, an average general color-preference order or average specific color-preference differences. The central idea of the second part of the test is to bring out this very inequality of the number of actual colors attached to listed objects of everyday life, to see whether specific color preferences agree with general color preferences when both are obtained from direct, general and specific objects, and to correlate these relative orders or scales of preference with those absolute scales traditionally and laboriously obtained by the ranking method.

2. That different groups had different orders of preference, brought out by Mr. Shen, seems to support the above contention itself, i.e., color preference is a very unstable affair. Group differences had been assumed by Chou and Chen. As it was pointed out in the last paper, the fact goes all the more against the concept of *general, absolute color preference* as traditionally understood. However, not all the group comparisons between Mr. Shen's groups are due simply to group differences. The low rank correlations between Tsing Hua and Bridgman, Bridgman and Nanking groups (Table 2 of Mr. Shen's article) are perhaps due to genuine sex differences, because these groups are known to be different not only as groups but as to sex also.

The other groups are mixed groups of both sexes and the correlation coefficients are higher.

3. The entire data of Part II of Chou and Chen's color-preference test

(for general and specific objects), as obtained by both Chou and Chen, and Shen in the latter report, need to be further analyzed in detail. Perhaps much light can be thrown on the specific object color preferences between different groups, between the sexes, and at different times. This part of the report will be reserved for a third forthcoming paper.

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NOTICE CONCERNING DISCONTINUANCE OF FOREIGN LANGUAGE ABSTRACTS

CARL MURCHISON

Because of the general lag in publication, and the relatively large amount of total space occupied by foreign language abstracts, we have decided to discontinue the publication of these French and German abstracts. We will publish such abstracts as have already been arranged for, but will be unable to prepare additional ones. This change in policy will release for publication purposes approximately 100 pages of space, annually, in the various journals under this editorial supervision.

BOOKS

FRANK LORIMER AND FREDERICK OSBORNE.. *Dynamics of Population: Social and biological significance of changing birth rates in the United States.* New York: Macmillan, 1934. Pp. xiii+461.

From the time of Francis Galton to the present, there has been a steady and mounting demand for a clear presentation of the facts about man's biological status under the conditions of modern individualism and modern medicine; we have wanted to know not only about our health and our diseases but something basic about the quality of the protoplasm of which we are made. We have wondered whether, as organisms, we are gaining, or losing, or simply maintaining a level. Probably no modern student of heredity is thinking of making a new human race by adroit exploitation of mutations, but such students do have in mind the huge variations within a species due to possibilities inherent in existing genes. Of course, the argument for scientific improvement of *homo sapiens* might still command attention even if it could be proved to be *unnecessary* in the light of rapid progress. But it becomes a compelling one when one confronts this book's mountain range of carefully gathered and systematized data.

In brief, Lorimer and Osborne's book consists chiefly of carefully weighed and documented evidence which appears to indicate that on the whole the Industrial Revolution is having a very dysgenic effect, an effect which is already clear to the student and should be very evident to anyone within two or three more generations unless it is checked. The evidence presented suggests moreover that individual intelligence and education, love of children, and sense of social responsibility do not touch the problem except when reinforced by national (and international) forces altering the economic conditions of parenthood. The trouble goes very deep. Yet there *are* suggestions for a partial solution—the quality of our population appears to be declining yet it is not too late for constructive thinking about the problem. Though this is not the first important book on population from a more or less psychological angle, it is the first which states a *well-defined case* for the reconsideration of *laissez-faire* and a rethinking of basic values regarding the stuff of which humanity is—and will be—made.

The basic problems as they affect Western Civilization are all illustrated by the United States; and since the American data are usually the most complete for present purposes, they make up the bulk of the book. The first problems considered are (1) the nature of the original stock that settled the colonies and the later European migration, considered as to nationality and "race" and as to range of general social competence; (2) the rate of reproduction of all these various elements up to the present

time; (3) the influence of size of community, of occupation, and of economic status upon rate of reproduction. This detailed description and historical work is followed by the more complicated task of judging the cultural-intellectual development of the whole population—in terms of almost every category of differential psychology: States, economically defined areas, occupations, those who migrate, and those who stay still, etc. One sees the whirl of social change, the expanding and contracting, now of one group, now of another; the decline and loss of identity of old familiar groupings; the extension and retraction of social pseudopods that leave the basic life but little affected; the epochal sweep of dominance of some groups and the decay of others. To stick to “cultural-intellectual development,” and refrain, through this long discussion, from any premature discussion of germ plasm, is a mighty achievement, seldom if ever accomplished before by those who really understand and care about the basic ability of human beings. One sees how it is the fate of one group to “carry” (to use a neutral word) competence and achievement and of another to carry squalor and defeat; and to get this first fact across is essential *before* one begins to discuss how far the stock owed its character to fortuitous cultural factors, and how far the germ plasm of the stock set the stage for the social happenings. The ground is prepared for a discussion of eugenic problems. The reader who has strayed this far into the book will probably never listen again to anything so naive as a “hereditarian” or an “environmentalist,” but will begin to ask meaningful dynamic questions.

Next follows a detailed analysis of differential reproduction as it now exists between country and city, economic classes, religious and national groups. The birth and death rates and the more meaningful indices of true reproduction rates are taken into account. Age at marriage, total number of living children per family, number of women ever married, death rates at different ages, etc., are presented in great detail (with details of mathematical analysis which make hard work and will unfortunately frighten many who have enjoyed the descriptive material). The result is to give a clear picture of what the present population is becoming, what the groups of such and such cultural-intellectual development will probably become, what trends, already present in birth rates, will show themselves in an adult population twenty or thirty years hence. Here obviously the social implications of the prevailing huge “differential” are apparent. What we all know about the inverse relation between economic status and family size is here presented in a mature scientific form. Let the cultural factors in producing individual differences in intelligence be as high as you like—100 per cent if you choose—still the fact that there is a large excess of fertility among the handicapped and a large deficit in replacement among the favored and competent, becomes grievously im-

portant; it is important in its own right, aside from all eugenical considerations. No matter what the ultimate future may bring, this century is bound to suffer profoundly from the shrinkage of favored groups and the expansion of unfavored. If, however, one goes further and raises eugenical questions, and allows 20 or 40 or 60 per cent of variance of intelligence to be considered the result of variance in biological capacity, the implications seem sinister indeed.

Yet the most striking quantitative result in the whole situation is that it is not a question of race and, only in part, a question of occupation; it is largely a question of farm versus city. The cities, especially the large ones, depress the birth rates to below the replacement point while the farms give more than replacement. The point is that the big source of supply of the American people which is pouring out its progeny at a tremendous rate is the farm, especially the southern white farm. While other wells dry up, this source goes pouring on and spreading its product like the waters over the face of the earth. The typical intelligence quotients of this class in the South average around 80 (the many studies are completely summarized by Lorimer and Osborn). By any theory of heredity and environment whatever, the effect of all this on American intelligence in as short a time as thirty years, is worth thinking about.

To the familiar American data on the children of various occupational groups, are added some very interesting Dutch, Scandinavian, and Italian figures on occupational differences in cultural-intellectual development and on the fecundity of those who reveal these differences. There is no stone left unturned; the completeness of this survey can only be gauged if one has been roaming in the heredity-environment field and has followed census publications and economic material on standards of living, etc., as well as material ordinarily called psychological. The reviewer, who thought himself reasonably well-informed in these matters, found much of the technical population material exceedingly stiff reading. One of the great values of the book lies, nevertheless, in the fullness of this technical exposition and it will be tragic if the book is judged solely in terms of its appeal to the general cultivated reader.

Although, of course, the problem of eugenics is ultimately concerned only with individuals, the practical attack on the problem has to be in terms of larger social groups. We must know which of the existing social groups—racial, national, occupational—can be considered by and large to be intellectually superior and which inferior. In their critical analysis of this material, the authors conclude, with Klineberg and other modern students of the problem, that *race*, as such, plays no clearly definable role in present eugenical trends; carefully planned and controlled studies show that all of the intellectual differences attributed to

race may quite likely be due to educational and other cultural factors. On the other hand, the concept of occupation when subjected to the same critical analysis fares quite differently. The epoch-making Stanford and Chicago studies of foster-children, and the many recent quantitative studies of parent-child resemblance, are shown to suggest that environmental factors play a striking role but not to cover satisfactorily all of the observed differences. Occupational differences, which are a slender reed to lean on in predicting individual test scores of adults or their children, become vastly important in mass problems. The huge literature on occupation and economic status in relation to mental ability is carefully and thoroughly reviewed as it bears on "cultural-intellectual development."

The conclusion of the authors that modern conditions, especially the occupational differential, are actually reducing rapidly the proportion of well-endowed stock and rapidly increasing the proportion of poorly-endowed stock, are so closely tied to the detailed empirical data that to cite only the authors' conclusion is unjust to the spirit of the book. Yet space forbids more detailed discussion. The empirical data will be for many years to come a mine of information and indispensable handbook to all serious students of eugenics and of human heredity in general despite the many shades of opinion as to the possible interpretations which may be put upon this material.

The last section of the book discusses causes and control of population trends. Here are discussed age at marriage, sterility, and the many biological and social aspects of family limitation. Stress is necessarily placed upon the fact that modern competition is seldom in Malthusian terms, competition for life itself, but competition for a standard of living, a comfort-and-prestige level. Contraception, once justified in the interests of maternal health, is almost universally regarded as a natural and obvious way of keeping one's family on the social level to which one has adjusted oneself, avoiding debt and the fear of inability to educate one's children to one's own level or a higher one. What has been learned by one economic class has been rapidly filtering through to others. Nothing stops it, not even religion. British and American figures show that religious groups have the number of children expected for their economic status. Only one thing has really stopped the spread of birth control, namely, the farm. This may mean simply that additional mouths to feed are not dreaded on the farm; or that contraceptive methods are not understood; or both. There are interesting practical possibilities in the present large-scale back-to-the-farm movement. If a definitely superior population could be placed on farms (farm groups are still definitely superior in a few parts of the country) we might in ten or fifteen years begin to get light on a practical eugenical procedure; by that time we shall know whether this new farm population is

approximating the reproductive ratio of city populations. The problem is almost infinitely complicated and the authors tread their way here with great care, but also with great resourcefulness and imagination, realizing that the present problem is not to "put over" a campaign but to guide a few thoughtful people in the understanding of a problem that cannot be shelved even if it is difficult. A series of recommendations for the economic encouragement of parenthood is offered, realistically considered in relation to present changes.

Psychologists have long wanted this sort of book, jammed full of facts and ready to be put to work; now they have it. Some of the real dignity of the term "eugenics" will come back with the full stature of the problem as seen through Lorimer and Osborne's eyes.

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BODY FORM AND SUCCESS IN STUDIES

From the Psychological Laboratory of the University of Michigan

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This work grew out of two suggestions. The first came from Kretschmer's statement that the pyknic form was prevalent in the cyclothyme, the asthenic and athletic in the schizothyme. The second came from Naccarati's correlation of height-weight ratio with intelligence tests. For several years I had been struck by the fact that the pyknic type was rare in universities. It was called to my attention first when I suggested to a student that he attempt to make a real study of the relation between temperament and body form, to determine if Kretschmer's statement, which seemed to rest mainly on insight, had any basis in fact. The student came back with the assertion that there were no pyknics in the university and so no possibility of making comparisons. At first I thought it might be a local phenomenon, but observation of the student form in Germany and in England showed that the same absence of pyknics was found there as well.

The problem of how large a percentage of each type is present in the normal population had been attacked, so far as I can find, only by von Rohden (13), and by Gruhle (3). Gruhle used as material the patients who presented themselves at the Heidelberg skin clinic. Gruhle found 20.3 asthenic, 18.6 athletic, and 12.7 pure pyknic (21.2% pure and mixed pyknics). The others were different mixed forms. This was not a psychopathic population and may possibly be regarded as a fair representation of the run of population in the Palatinate and the surrounding region. Von Rohden made a series of studies of distribution of body types among students and criminals. He finds the ratio of the three types among students, lep.: ath.: pyk.: 73:23:4. His results are based upon 150 Munich students. His ratio for criminals was 52:40:8. The marked characteristic here is the dominance of the athletic type. They were based upon measurements of criminals from three different prisons from Halle to Graz in South Austria.

Previous work on the relation of success with tests to body form had been rather uncertain. Naccarati (10), using height-weight ratio to success with tests had found a correlation of 0.23 between slenderness and standing in the Thorndike tests. Miss Heidebreder (4), using a thousand cases at the University of Minnesota, had found a zero correlation under somewhat the same conditions. These had not taken into account the Kretschmer classification.

As our investigation finally took shape, it had a bearing upon three closely related problems: (1) The number of pyknics in the University, and connected with that the general distribution of students with reference to body form. (2) The question of the relation between body form and success in studies. (3) The standing of the pyknic group in studies. The second and third points are approximately the same, approached from a slightly different standpoint.

The work was made possible by taking advantage of FERA labor. Mr. Van der Meer and Mr. Barrett were made available for computation and collection of data. The data were all taken from University records. The University gymnasium makes a series of measurements of each entering freshman, that includes the height and weight, the chest in inspiration and expiration. In addition the Health Service in recent years has recorded the judgment of the examiner as to body type. Each freshman is graded as to whether he is pyknic, athletic, asthenic or mixed in a blank on his examination sheet. The academic record is kept for each course as A, B, C, D, or E. In computing the standing of the student a grade of D or better gives a credit hour. Honor points are assigned in addition. C gives one honor point, B, two, and A, three. D gives no honor point and E subtracts one from the number already received. Relative standing is obtained by dividing the honor points received by the credit hours. We used this ratio as a measure of relative success in college work. In our records it ranged from -2 to 3.0 .

For our measure of body form we used the Pignet Index. It was devised by Pignet (11) as an index of the probable susceptibility to tuberculosis of the recruits in the French army, but was mentioned by Kretschmer as an indication of the bodily types and was used by von Rohden and others in actual computations. The Pignet Index is the height in centimeters—(weight in kilograms $\div$ the chest circumference). As a measure of body type, Wertham objected to it

because the weight increases so markedly with age. This objection holds when men of different ages are used, but is not valid for our material where the age ranges for the most part from 16 to 20. Of our pyknics, who alone would tend to invalidate our measure, there were only seven above twenty, two were twenty-one and one each was 23, 24, 25, 26, 27, and 28. In comparison, one-third of von Rohden's German students were over 20. In marking off the body types, the lowest indices up to 10 were included in the pyknics, from 11-23 were called athletic, and those above were put in the asthenic or leptosome group.

A card was prepared for each student on which were the body measurements in the English values, and the number of credit hours and honor points. From these the Pignet Index and the honor-point ratios were computed and recorded on the card. We used altogether 986 students, all men. As a trial group to determine if the methods promised anything, we chose 100 students from the literary class of 1934, the last class to have completed its course. Then we added the remainder of that class, 345, who were treated separately. Then we added 155 of the engineering class of 1934. As the grades are on a different basis in the engineering college, they could not readily be combined with the men in the literary college and so were treated separately. Finally cards were prepared for 371 of the class of '37. They had completed but three semesters of the course when their records were copied so they were not altogether comparable with the complete eight-semester record of the '34 students.

In our first work we made no attempt to divide along the lines of the Kretschmer types, but worked out a correlation between the Pignet Index and the ratio of honor points to credit hours for each individual. This was calculated for four groups separately. The conditions for the engineers and for the class of 1937 were sufficiently different to make it dangerous to combine them. The first one hundred of the class of '34 might well have been thrown in with the others, but they had already been worked out separately, and the gain from combining them with the others seemed to be too slight to justify the extra time. As will be seen the results were closely similar.

First a coefficient of correlation by the Pearson product-moment method was determined. The coefficients were calculated separately

for 100 of the class of '34. This was done as a trial flight to see if it was worth while going further. The first correlation gave an r of 0.23 with a probable error of 0.06. This seemed to establish a connection, so the coefficient was determined for the remaining 345 men in the class. This came out at 0.29 with a probable error of 0.03.

Less conclusive were the results obtained with the first three semesters' work of the class of '37 and with the engineers of the class of '34. The former gave a correlation of 0.08 with a probable error of 0.07, and the latter a correlation of 0.05 with a probable error of the same amount, 0.05. Both were positive but very small in comparison with the probable error. They were so small as to be of no significance did they stand alone. The numbers were large enough, both in the computations that gave a large and in those that gave a small correlation, to be significant. There were 371 men in the class of '37 literary group and 155 engineers.

That the same type of unselected students should give such different results suggested more detailed study of the distributions. The results were plotted. Regression lines did not show up significantly. There was a tendency in all three group curves for the high grades to be obtained by the men with a Pignet Index in the middle range. For the '34 Lits. the peak came between 28-40, from the dividing line between athletic and asthenic up. For the engineers, the peak was a plateau 22-38, for the '37 Lits. it lay lower at 14-28, but with a few very high grades for the highest index. One has the impression from the chart and from a study of the averages of the grades made for each Pignet group that there is a gradual but irregular rise in the grades as the height-weight ratio goes up to this midway point, and then a corresponding fall. In the Lit. '34 group, the fall at the maximum height is lacking, in fact the highest scores were made by a small group of the men with the highest index. It was this departure from the rule that may be regarded as responsible for the relatively high correlation in that group. In the two groups where r was low, the tendency to have the honor-point ratio decrease with the rise in the Pignet Index above the mid-range compensates for the fairly consistent rise in the lower half. Inspection would indicate a tendency for a negative correlation in the upper half of the range that compensates in part for the positive correlation in the lower half.

Study of the curves and the observation of the men who made up the lists both indicate that the great difference is between the decidedly pyknic individuals and the remainder of the groups. We selected, following Kretschmer, an index of 10 as the dividing line between the pyknics and athletics. Using that as a basis, the pyknics showed a greater tendency to drop out of college and made a lower ratio of honor points than did the more slender group. This held as well for the two groups in which the correlation was very low as for those who had a relatively high coefficient.

Most significant perhaps is the number of the different bodily types that dropped as compared with those who finished the course. In the 345 chosen from the class of 1934, there were 19 pyknics, on our standard. Of these only three finished the 120 hours required for a degree. Of the first 20 asthenics chosen at random, 15 completed the course, and there were also 15 of the 20 athletic type students who finished the full 120 hours. In the trial 100 of the class of 1934, there were 13 pyknics, and of these seven finished and five dropped. Of the 155 engineers ten were pyknic, and of these six dropped out. In the first-three-semester record of the class of '37, the tendency is the same. Of 371 members of the class, 57 were pyknics and of these 26 dropped. The ratio is rather lower than in the other classes, but represents the effects of only three semesters. Others undoubtedly will join them before the other five semesters are up.

A study was made of the records to see whether those who completed only part of the course had a poor record. On the whole the pyknics who dropped had fewer honor points than hours credit. They were below the minimum requirements for staying in the University. Of the 16 who dropped in the larger group of class '34, ten had fewer honor points than credit hours, six had an equal or greater number. In the first 100 dealt with of the class of '34, four of the six who dropped had an honor-point ratio of less than 1.0, two were over. Of the 24 class of '37 pyknics who dropped, 16 had an honor-point ratio less than 1.0, eight were 1.0 or above. In the engineering group, of the six who dropped, all but one were above 1.0 in their honor-point ratio. For the pyknics, the individuals who dropped were more numerous and their record lower than for the other groups.

If we compare the average honor-point record of the pyknic group with the average of the other two types, the pyknic appears to be at a disadvantage. In the large group of the class of '34, the pyknics had an average ratio of 0.84, while the lowest average of any group in the athletic or asthenic type was 1.09. For plotting, they were averaged by two Pignet Index points into 19 groups. Of these groups, only two were below 1.2 in their honor-point rating and six, among them four of the larger groups, were above 1.6. Of the class of '37, the honor-point average of the pyknics was 1.17, one group near the border had an average of 1.08, and two in the middle of the athletic-asthenic group, 1.15. The others ranged up to 1.55. The same held for the engineers. The pyknics were below the average of the class, but not markedly so. The slighter difference between the honor points for pyknics and others in these two groups would be expected from the low coefficient of correlation. It should be said that there was a wide scattering and that the standard deviation would be greater than the differences between the types compared. Nevertheless, the general consistency seems significant and so was reported.

The curve of success in college for the class of '34 and the class of '37, the two largest groups, has been plotted over the curve for distribution of body form in Figure 1. Each point on the curve represents the average honor-point ratio for a group of Pignet Indices. In the region above 2, each point represents the average of two full integers of the index. At the lower end, where there were few individuals, each point represents approximately five units of the index scale. This grouping does no violence to the facts and makes the curve easier to interpret. The total number was 711. The two groups differ only in that the records for the class of '37 cover only three semesters while the records of the class of '34 cover eight semesters. The curve shows a distinct trend from a relatively low grade with the smaller indices to a maximum at the Pignet Index of 35 and then a slight falling off save that the highest average is made by a small group of six with the highest index.

The interpretation of the data is clear by either method. The pyknic type does not succeed well in college work. Possibly the small number in college disturbs the computation, but that would probably rather emphasize the negative relation between avoirdupois

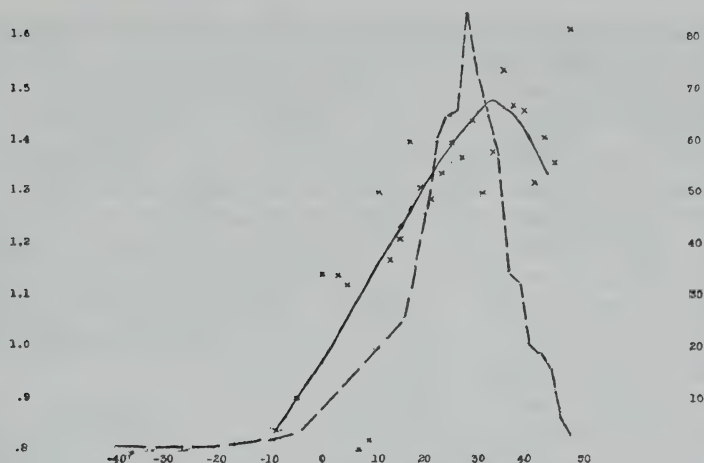


FIGURE 1

The single dots and the continuous line curve shows the distribution of the different Pignet Indices in 886 Michigan students at time of admission. Each point gives the number for two units on the Pignet scale. The figures at the right give the number of cases; the figures at the bottom are the numbers of the index. The curve combines results of groups with coefficients of correlation of 0.23, 0.29, and 0.06.

The crosses indicate the average ratio of honor points to credit hours for a group of students with the Pignet Index indicated on the base line. From point 3 on the Pignet Scale up, the cross gives the average for a range of two points on the scale. The three points to the left group together more points to give a number sufficiently large to be characteristic. The first point, for example, averages those with an index from -39 to -7 , (nine cases). The next two points show less wide ranges. The last point at the right also groups the men from 46 to 50. The figures at the left margin give honor-point ratios.

It is a question whether the curve that fits best should turn down at 35 to give weight to the greater numbers or should go on up to the high point at 50. We have turned it down for that harmonizes with the curves for most of the separate groups.

and honor points. If, as seems, there is a large elimination of the pyknic both before and after entering college, it might be surprising that the correlation we found between Pignet Index and scholarship was as large as it was. It ceases at least to indicate the relation between pyknic and intelligence and becomes rather an indication of the relation between height-weight ratio and scholarship, in the athletic and asthenic groups.

The ratio of people who drop out to people who stay, in the pyknic group as compared with the average, is enlightening in itself. It shows very clearly a relative lack of ability in the pyknic group that is somewhat startling. It may also indicate an easy-going nature in those who stay. The large proportion who drop out who have failed to make the required honor points indicates lack of ability. The number who drop who have satisfactory records might be interpreted as an indication of lack of initiative or persistence in the work they have undertaken. The latter interpretation harmonizes with Kretschmer's belief that the cyclothyme is a self-indulgent individual rather than a strenuous worker. Kretschmer makes no assumption of a difference in intelligence between his groups.

The question, what constitutes the types of Kretschmer, is in a very unsettled and unsatisfactory state. Kretschmer based his grouping upon inspection. The measurements made were very sketchy. In addition to body form, the amount of hair, the pigment, the quality of the skin, the character of the bones, and various other characteristics have been regarded as significant by Kretschmer (9), Gruhle (3), Eyrich (1), Henckel (6), Goldblatt (2), and others. When the different considerations are put together there is still no definite standard that will mark off one type from another. Wertheimer and Hesketh (15) made the measurements of the skeleton a criterion, since these would not change with age, and were independent of the amount of fat or muscle. The main controversy has raged about the definition of the pyknic, since Kretschmer in his studies of disease types opposed the pyknic to the other two types.

The pyknic is sometimes treated as if the type were dependent upon the amount of flesh; hence, a man might be of a pyknic type when forty although he was of an athletic or asthenic type at twenty or in the teens. This seems not to be in harmony with the best opinion. Kretschmer connected the types with a decrease or increase in the functioning of the endocrines, Huter is quoted by von Rohden as believing that the types are determined by the relative development of one of the three layers of the embryo, asthenic correlating with unusual development of the ectoderm, the athletic with development of the mesoderm and so great development of muscle and bone, while the pyknic results from unusual development of the entoderm and so of the nutritive system. These are merely suggestions and

need be quoted only as an indication that the types regarded are fundamental and not dependent upon changes that could take place in the life of the individual. Von Rohden inclines to dodge by saying that the predisposition is present from birth but that the later environment may determine the course of the development.

It seems safer to argue that the type is determined at birth, and that accidental additions may conceal the manifestations, but cannot change the nature. A pyknic or asthenic at eighteen will be of the same type all of his life, however much fat or muscle he may gain. This is certainly Wertheimer's rationale for his measurement and is in accordance with general principles.

A study of the distribution shows no evidence of a definite pyknic type if one uses the presence of a bi-modal curve as a measure of the type. Plotting the curves of the different groups either separately or in combination shows that the Pignet Index gives a normal curve of distribution, or one that approaches the normal with a slight skewing towards the asthenic end. The height of the curve (Figure 1) lies at 28 in the Pignet scale. Accepting Kretschmer's and Henckel's division at 23, this throws the average well into the asthenic group. It is a matter of small moment what point is chosen so far as distribution of academic standing goes, as there is no noticeable difference between the asthenic and athletic types in the distribution of honor points. The center of distribution for the American student is at the bottom of the asthenic group.

Evidence of the importance of the distinction between the pyknic type and the other two seems to accumulate. Kretschmer's original statement had little but impression to go on, but the mass of evidence since seems definitely to confirm it. Even skeptics like Kolle and Gruhle admit a predominance of pyknics among the circular cases, even if they are skeptical about a difference between the normal and the schizoid in the percentage of athletic and asthenic. Von Rohden found fewer pyknics among students and criminals, and Travis (12) recently found no pyknics among individuals who suffer from speech defects.

Our results as to the proportion of the different types showed a smaller ratio among the Munich students than is found at Michigan. Von Rohden's ratio, it will be recalled, was 1:a:p :73:23:4. Our ratio for the 986 students was 57:32:11. The difference may be

explained as due to the low nutrition of the German student since the war, in part. In part it may be due to the greater elimination of the pyknics among the German students by the more severe tests of the gymnasium and the Abiturient examination. If we had counted the number among our students at the end of the sophomore year, it would have been reduced, probably by as much as one half. Our ratio of pyknics is less than Gruhle's sum of the pyknics and pyknoid type.

If one assumes that there is a pyknic group, with the specific mental and emotional characters assigned them, it must be that there is some cluster of characteristics of the organism that affects the contours of the body and the efficiency of the brain. The one surface indication is the contour. This is certainly not the causal factor but can only be an effect of some underlying condition that brings about the change in body type, the susceptibility to circular insanity, the absence of stuttering, the relatively poor grades, and the cheerful temperament and extraverted reaction which Kretschmer assigns to his cyclothymes. Obviously there is no invariable relationship between the Pignet Index and intelligence, for in each class a few students with a low index had excellent marks. The general tendency is clear. On the average, low indices and low grades go together, but the exceptions show that bodily proportions do not make the intelligence. Both may be due to interaction of numerous different factors, some of which may be common causes of the two conditions, others may induce one and not the other.

The only known factor that would induce both a low Pignet Index and low intelligence is a deficiency in thyriod secretion, as in myxedema. Statistics give no indication that this condition is present in a sufficiently large number of cases to account even for the pyknics who do not do well in their studies.

SUMMARY

A study was made of the relationship between the body form as measured by the Pignet Index and the grades received in the University.

A positive correlation ranging from 0.05 to 0.29 was found for four different groups of students numbering from 100 to 371.

It was also found that the average grades of the pyknic students

were uniformly lower than for the athletic and asthenic groups, and that more of the pyknics dropped out of college before finishing than did those of the other types.

A curve shows that Michigan students are distributed in approximate accordance with the normal curve about an index of 28, or in the decidedly asthenic group.

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PERSONALITY THEORIES IN RELATION TO MEASUREMENT*¹

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An army of young psychologists has grown up with faith in the creed that anything that exists exists in some quantity, and that quantity can be measured. Possibly a few would take issue with the first part of this battlecry, some would deny that all traits are susceptible of quantitative measurement, and many would agree that not all that we attempt to measure exists.

With the present diversity in theories of how personality is put together, it is plain that it is very difficult to establish proof that a hypothetical trait does or does not reside in an individual. Part of the difficulty may perhaps be escaped when we attend to just those aspects of personality which Mark May has called the person's "social stimulus values," as shown in the reactions of other persons to the individual. However, these social stimulus values represent a very circumscribed area of the total personality; moreover, they would appear to be merely derivatives which cut through aspects of personality which are more basic. Take, for example, the concept "pleasing personality," of which many permutations and combinations have been investigated recently by Flemming. It is important, of course, to know of a person to what degree he is pleasing or unpleasing, but from the standpoint of theory, therapeutics, or nostrum advertising, it is even more important to know what combination of traits residing in himself contributes to the effect. This brings us back again to the question of our symposium: Can personality be measured? We shall take the position that before we can claim to have measured any basic aspect of personality we must have proof that the numerical label which we attach to the purported measurement corresponds to

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some tendency which really exists in the individual. Stevenson Smith put the point most succinctly when he observed that it is not sufficient to devise an instrument, however reliable, whose sole merit is efficiency in predicting scores on Form B from scores on Form A.

It is convenient to make a broad classification of current personality theories. There are the specifists who consider personality to be an additive composite of a myriad of isolated and narrow native tendencies and learned responses. There are the factorists who regard personality as compounded of relatively few, statistically independent components. And there are the other psychologists of several different schools for whom personality consists of broad but fairly discrete traits or emergents which exert directive influences upon specific responses, or for whom personality is a phenomenon so integrated that "the totality of mental life is expressed in every individual act." Clearly, unless we have some empirical basis for choosing from among these viewpoints, the various devices for testing, rating, or observing manifestations of personality must be thought of as research tools rather than as measuring instruments.

SPECIFICITY VIEWPOINT

If the specifists could establish their case, this would greatly simplify our whole problem. We should then merely attempt to measure directly what we wanted to know about an individual, as we now try to do on scales of specific attitudes, instead of attempting to draw samples from broad traits. However, it would mean that the task of quantitatively describing a personality would be very formidable, and that measurement for the practical guidance of individuals would have to be limited to batteries assembled empirically for special purposes such as predicting vocational success, delinquency, and so forth.

The evidence which the specifists bring forward to support their view centers around the low intercorrelations which almost without exception are reported between separate tests, ratings, or observations, of forms of behavior called by the same trait name. The Character Education Inquiry results have probably received more citations than any other—for example almost any elementary psychology student could produce on demand the fact that different kinds of deceit—cheating, lying, taking money, and so forth, intercorrelate on the

average only to the extent of .23 in school children. The various tests purporting to tap certain emotional drives, for example the trait "extroversion-introversion," have also come in for a large share of attention. These have yielded such uniformly low intercorrelations, except when validated during construction against each other, that the comment has been made by Guthrie: "If any of the tests is a measure of extroversion it would seem that no one of the others can be!"

Such results might mean that personality consists only of very specific tendencies—but a universal negative cannot be established inductively. The specifist leaves untouched the possibility—our psychiatrist friends might say the clinically established certainty—that personality is highly organized, not around abstract trait names such as honesty, service, or persistence, but around more subtle dynamisms. It is even possible that a persistent tendency or trait should give rise to apparently contradictory kinds of behavior at different times, depending both upon external circumstances and upon tensions within the individual. For example, shyness, to use an illustration furnished by Lewin, is recognizable both in flushing and confusion, and in compensatory aggressive behavior.

FACTOR ANALYSIS

Considering next the factor analysis approaches to measurement, we find that these attempt to punch out refined measures of statistically independent traits from a matrix of intercorrelations among "traits" chosen on an a priori basis. The old method of making a factor analysis was to set up several rival theories such as "one general factor plus specific factors," "one general factor plus two group factors plus specific factors," etc., and test the intercorrelations to see whether they were consistent with one of the theories. The newer methods of Thurstone and of Hotelling automatically force the intercorrelations to align themselves with a blue-print diagram of personality. The diagram has its starting point with the hypothetical trait which runs through the a priori traits of the correlation matrix with maximum saturation, then proceeds to an orthogonal or independent trait which runs through the residuals with maximum saturation, and so on. In the personality field these newer methods have been applied to interests tests, attitudes tests, and psychotic symptoms. When interpreted

as one possible way of looking at the intercorrelations among tests, they give results that are interesting, stimulating, and unobjectionable. When, as sometimes happens, the "factors" wrung out of an analysis are interpreted as some kind of stable entities, some kind of recognizable unitary functions—if not faculties—progress toward personality measurement would seem to be impeded. The chief criticisms that have been levelled, we believe justly, at such an interpretation are:

1. Although the results may not be inconsistent with the existence of the factors inferred, neither are they inconsistent with the non-existence of the factors (Thomson).

2. Factors have an elusive way of metamorphizing. Among tetrad treatments of intellective functions, there is a classic example furnished by Brigham of a purported group factor between two tests in a battery of nine that disappeared and yielded to "*g*" when these two tests were employed in a slightly different battery of seven tests. By Thurstone's or Hotelling's techniques the particular factors found to run through a group of variables would be bound to give way to a different set of factors if a new analysis were performed upon these same variables in combination with additional variables.

3. The entire conceptual basis underlying factor analysis does violence to all that is known about the processes of growth and development. No good reason can be adduced why Nature, so prolific with her genes, nor environment, working at the same moment upon many of an individual's traits, should duplicate the parsimonious arrangement of factors arrived at through tetrad or pentad or least squares analysis. Wilson and Tryon have pointed out that correlation rather than independence might well be anticipated among the basic building stones of mind or personality even if they are functionally isolated, since cross-assortative mating—nearly always present for even the most obscure traits—has the effect of loosely binding together quite diverse genetic tendencies.

INTEGRATED PERSONALITY

Considering finally the viewpoints upon integrated personality—it is probably a non-controversial assumption that clinical psychologists, psychiatrists, and psychoanalysts all have some working conception of integrated traits, or of "total personality." So do the educational

psychologists who construct and administer personality tests or rating scales. The clinicians and non-clinicians often differ, however, upon what *kinds* of tendency constitute integrated traits. The testers and raters have usually worked on the assumption that traits have generality both in the sense that they function in many situations, and that they exist in some degree in every one. Ascendance-submission, extroversion-introversion, neurotic tendency, compassion, fairmindedness, leadership, social intelligence—these are a few of the traits which have been approached through tests, inventories, time-sample observations, and ratings. If a device has been “validated” by selecting items that discriminate between groups of individuals judged to possess the extremes of a supposed trait, and if it is reliable by the criterion of a stepped-up split-half correlation, its maker claims to be measuring personality.

But, say many of the clinicians and also Gestalt psychologists, supposing the thing that the test is believed to be measuring is not a real trait whose parts hang together and function as a unit—what meaning could a quantitative score have then? Supposing the different points on what looks like a linear scale are really organized around quite unrelated traits. Take the series: over-prompt, punctual, tardy, not arrive—may not these represent, at least sometimes, a classification like eye-color, each form a behavior involving a qualitatively different psychological significance? (This point raises an interesting side issue concerning the meaning of correlations which have been reported between siblings and twins upon tests and trait ratings. If a scale is not measuring the same trait at different parts, a low correlation between, let us say, identical twins, does not necessarily mean that environment has imposed large differences upon hereditary likenesses. Low correlations might be compatible with intra-pair differences of slight significance psychologically, even while the differences represented large segments on a trait arbitrarily scaled. Supposing that a pair of twins, very similar in their degree of nervous tension, should show different manifestations of these tensions. One, let us say, bites his nails; the other rubs his nose. On a short time sample scheme of oral and nasal nervous habits considered as two separate traits, this twin pair would pull down correlations. However, any psychiatrist would see through these “phenotypic” disparities to their “genotypic” equivalence.)

Supposing again that the members of a neurotic criterion group on whom a test is standardized were chosen in some cases for general hyperirritability, in other cases for compulsion neuroses, in other cases for specific phobias, in other cases for hypochondriasis. It may still be possible to get a high odd-even correlation between test items—if you include enough items—but a quantitative item score will be likely to miss the neurotic individuals whom you are anxious to identify. You may even combine together into batteries such admittedly specific tests as those constructed by the Character Education Inquiry for honesty, service, or persistence, and get respectable split-half reliabilities. But this gives no assurance that the composite is a measure of a real trait. Only a few children may show behavior actually organized around abstract ideals, and even with these few, their individual goals or values are probably included in their concepts. If so, we should attempt to measure not merely honesty, but resistance to temptation, not merely persistence, but persistence toward valued goals. With many children extremely personal conscious or unconscious motives—not social concepts—may constitute almost the sole integrating force from which traits spring, and the child may seem to engage in behavior that lacks organization because, in Lewin's language, his valences are not understood by the observers. An Oedipus rivalry, for example, might take the form of "showing mother that I'm stronger than my father." If tested on the Hartshorne-May deceit battery the child might then be tempted to cheat in an athletic contest, but quite the reverse in a bookish examination. Though situations of this kind would go far to deflate the correlations that might otherwise obtain between the tests of deceit, it is apparent that the child is actually behaving in a consistent manner for *him*. If it were possible to infer the meanings of situations which *seem* but are not identical for different children, the nuclear dynamisms out of which traits grow might be identified and even quantitatively measured.

Some might rather conservatively agree with Gordon Allport that there may be a few hundred traits universal enough to be scaled in the population at large, whereas there may be in a single personality a thousand traits distinguishable to a discerning observer. Others might follow Spranger and posit a unified personality which expresses itself in every individual act, and which may be organized into one

or another of relatively few types. Still others might go the whole way with Stern and conceive of a unified and *unique* personality. If the unique traits of Allport, or the unique personality of Stern, have any counterparts in reality, it is clear that any direct attack at their measurement through generalized tests or scales of the types now in use has little probability of success.

EXPERIMENTAL TRENDS

Is there yet any sound experimental evidence to help resolve the rival viewpoints of the specifists, the factor analyzers, the general trait mongers, and those who advocate the concept of personal idiom?

The arguments of the specifists we have discounted because their correlation treatments merely affirm the degree of tendency for the acts of an individual to vary concomitantly from group norms upon hypothetical traits. They tell us nothing about the possibility of organization of behavior around other nuclei.

Regarding the existence of general traits acting as functional entities in the general population, I know of no experimental evidence that has established them. Factor analysis, as we have seen, does not demonstrate traits, but merely assumes them. Possibly the only way to identify general traits, if they exist, is laboriously to seek out behaviors that do cluster together, recognizing that very diverse behaviors may show functional equivalence. Shirley found, for example, in her study of the first two years of life, several "uncooperative" babies who habitually screamed during their periodic tests until they learned to walk, after which they became the most strongly addicted of the children to escaping from the examination.

That some kinds of significant behavior are broadly organized as type constellations or as idiosyncrasies distinguishable in a single personality is suggested by several items of evidence.

In the case of one of the most widely used prognosis tests—the Strong Occupational Interest Test—its author has stated that while high scores, that is "A" scores, in any given occupation select good risks with considerable success, there appears to be little relation between numerical score within the "A" level and degree of occupational success. We might thereby infer that the test when scored for a given occupation, say chemist, uncovers a trait which exists in relatively few persons. This trait may not be "chemistry aptitude,"

but may be a well-nigh indispensable component of it that could be described as an "interest-type" which is either present or absent.

The researches of Harold E. Jones upon galvanic responses in young children and infants have shown that subjects often show individual and persistent patterns of relationship between overt response and degree of galvanic deflection after emotional stimulus. Some children, for example, show an inverse relationship, from which Jones has concluded that the blocking of outward release in *these* children is favorable to a heightened visceral discharge. Such a characteristic could be called a measurable idiosyncrasy of emotional expression.

In a preliminary experiment which I carried out recently with the assistance of the Institute of Child Welfare nursery school teachers and some students, predictions were made by the nursery school teachers of what they believed the children's behavior *would be* in three situations standardized by Marston: reaction to a stranger, compliance in opening a difficult latch, and self-assertion in the presence of desired toys. On *reaction to a stranger*, independent predictions of the two teachers correlated to the extent of .82, which of course is much higher than two trait ratings usually correlate. The correlation between combined predictions and actual performance was .49; an estimated correction for attenuation would raise this to about .65. In the cases which on the surface seemed to give the most disagreement between prediction and performance, the child's performance seemed to be congruent with the *intent* of the prediction. For example one four-year-old child, whom the teachers believed to be a youngster who would approach a toy on the experimenter's table without undue urging, actually refused the toy after considerable urging. But this was not through shyness—he conversed calmly with the stranger, and announced, "The only things I like to play with is blocks. I only use toys for circuses." Trait ratings upon friendliness gave almost zero correlation with actual performance in the *reaction to a stranger* experiment. In the compliance and self-assertion experiments, not only did combined predictions by the two teachers show very low correlations with performance, but the two predictions showed very low correlations with each other. The results at least suggest the following: that the quality of a child's social feeling may be a pervasive and recognizable idiosyncrasy that can be translated

into predictions of behavior in new situations, but that compliance and self assertion instead of being so described must be considered always in relation to the individual's interests and goals.

In a study carried out jointly by Dean Esther Dayman, of Mills College, and myself, scores on the Bernreuter Inventory of fifty freshman girls living in dormitories were correlated against eight pooled ratings by their hall officers and head resident. We found, as others had found before us, very low correlations between scores and ratings:

Neurotic tendency	.21
Dominance	.15
Self sufficiency	.43

Some suggestive results, however, came out of individual analysis of the blanks and ratings. There was little evidence to suggest that extreme scores on neurotic tendency—outside the 10 to 90 percentile range—were recognized as unusual by the raters. But there was some evidence to suggest that an extremely self-sufficient score (though not an extremely dependent score) corresponded to something that could be recognized by associates as a trait. Four of five girls testing above the 90th percentile were recognized by all the eight raters, as *not* depending upon advice, sympathy, or encouragement. The fifth, who tested at the 99th percentile of self-sufficiency, was rated by one rater as extremely dependent, by another as somewhat dependent. There was a single clue to this on her inventory blank—the confession that she needs to have her ambition stimulated by contact with successful people. With respect to the dominance-submission scale, the girls with high scores were all unremarkable in their status on the ratings, but the two who had very submissive scores were also rated as extremely submissive, and were described by Miss Dayman variously as shy, retiring, and intimidated. The girls who were rated as having very dominating personalities did not test especially high, but gave clues on their inventories that there were some situations where they were likely to be aggressive. It would be easy, of course, for a person with a strong will-to-power expressed in only a few situations to get the reputation of having a dominating ego.

Only as we develop techniques for determining how personality is organized and for recognizing the existence of traits or of personal

idiosyncrasies, however diversely expressed in overt behavior, shall we know whether we have *yet* measured personality in any significant sense. Only in this way shall we discover where lie the most promising approaches for developing measuring instruments. To do this it will doubtless be necessary, as Frank has pointed out, to resort to cumulative developmental studies, since the end product of personality is often an enigma, without knowledge of the stages through which the developmental processes occurred. For the time being, we may well afford to set aside the further refinement of devices which are believed to be measuring personality, in favor of the larger, more fundamental task. A statement by Carrel epitomizes this conclusion: ". . . in the development of every science, the conception is more important than the method. Techniques are only the servants of ideas . . . A method is an instrument which finds only that which is being sought."

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LES THÉORIES DE PERSONNALITÉ PAR RAPPORT À LA MESURE (Résumé)

Il faut prouver que l'étiquette numérique qu'on attache à une mesure supposé correspond à quelque tendance qui existe vraiment chez l'individu. Les spécifistes et les factoristes n'ont présenté aucune évidence convaincante qui soutienne leurs idées des traits mesurables. Ni les psychologues non plus que défendent une théorie des traits généraux qui se trouvent chez la population générale. Pour soutenir une hypothèse de groupes de tendances qui se montrent typiquement ou uniquement chez des individus seuls mais non pas chez la population générale, on trouve: (1) des études qui montrent que les tests de pronostic tendant à un principe "tout ou rien"; (2) des études qui montrent des formes uniques et persistantes de relation entre la réponse évidente et la déviation galvanique aux stimuli émotifs; (3) des études qui montrent que la connaissance intime des enfants d'âge préscolaire rend possible la prédiction de la réponse aux stimuli nouveaux; et (4) des études qui suggèrent des tendances organisées du comportement qui peuvent être identifiées par des estimateurs mais non pas par les résultats composés d'inventaire. Ces résultats indiquent des approches possibles pour le développement des instruments de mesure.

BURKS

PERSÖNLICHKEITSLEHREN IM VERHÄLTNIS ZUR MESSUNG

(Referat)

Wir brauchen den Beweis, dass die Zahlenetikette, die wir der gemeinten Messung beilegen, irgendeiner Neigung entspricht welche im Individuum wirklich existiert. Theoretiker der Spezifität und der Faktoren haben keine überzeugende Evidenz zur Unterstützung ihrer Gesichtspunkte für messbare Charakterzüge hervorgebracht. Auch haben die Psychologen es nicht getan, die eine Theorie der allgemeinen Charakterzüge behaupten, die in der allgemeinen Bevölkerung vorkommen. Zur Unterstützung der Hypothese der Konstellationen der Tendenzen, die typisch oder einzeln bei Einzelwesen vorkommen, aber nicht in der allgemeinen Bevölkerung, befinden sich: (1) Studien, die nachweisen, dass die Prognosentests auf ein "Alles oder Nichts" Gesetz ankommen; (2) Studien, die einzelne und beharrliche Gebilde des Verhältnisses zwischen offenbaren Reaktionen und galvanischer Abweichung auf Affektreize zeigen; (3) Studien, die die Vorhersagbarkeit der Reaktion auf neue Reize durch nahe Kenntnis des vorschulpflichtigen Kindes aufweisen; und (4) Studien die organisierte Verhaltungstendenzen aufzeigen, die identifiziert werden können, aber nicht durch zusammengesetzte Inventarwerte. Diese Ergebnisse weisen auf mögliche Annäherungen zur Entwicklung der Messinstrumente hin.

BURKS

EXPERIMENTAL STUDIES OF PROJECTION: I. ATTRIBUTION OF TRAITS*

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Projection has been defined by Healy, Bronner, and Bowers (6, p. 230) as "a defensive process under sway of the pleasure principle whereby the Ego thrusts forth on the external world unconscious wishes and ideas which, if allowed to penetrate into consciousness, would be painful to the Ego." Withdrawn from its metapsychological setting, the dynamic mental process thus described may be translated into these terms: A wish, attitude, or habit-hierarchy which is not compatible with other attitudes or habits of an individual may be *attributed* by that individual to other persons rather than to himself providing he lacks insight into the fact that he himself possesses the trait in question. This process of attributing is unconscious; i.e., the subject does not give any verbal evidence that he knows his perception is false.

The widespread use of projection as an explanatory principle in both normal and abnormal behavior (e.g., in the psychoanalytic theories of paranoia and phobic anxiety) warrants some attempt to evaluate the concept critically with a view to determining its exact nature and the conditions under which it operates. The present investigation has attempted to isolate a specific situation involving projection and to analyse the process quantitatively and in terms of other variables co-operative.

Although projection occurs most frequently and with greatest energy in the neuroses and psychoses it is found to some degree in many normal persons. According to the description given by Freud (3, 5), Jelgersma (7), Van der Hoop (8), and others, it is to be expected that within any group of normal individuals a certain number will utilize this process for avoiding the feelings of self-accusation which would normally accompany the possession of habits and at-

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titudes which meet with disapproval either from society or from the individual's own standards of conduct. Just what kinds of habits or "traits" are most apt to suffer projection has not been made clear; Alexander has been quoted (Healy, Bronner, and Bowers, 6) as using dishonesty as an example and Freud (3, 4) and Ferenczi (2), among others, have described the projection of homosexual desires.¹ The hypothesis may be advanced that any *persistently motivated* habit or attitude may be projected if it is sufficiently *reprehensible* to be refused recognition by its possessor.

The habits and attitudes subsumed under the trait names of *stinginess*, *obstinacy*, and *disorderliness* should have these two characteristics since they form the triad of traits which, according to psychoanalytic theory, are intimately connected with an incompletely extinguished anal-erotism.² As such they should be, first, persistently active even though recognition of their existence may be wanting, and second, reprehensible or opprobrious. No experimental validation of the first assumption was made, but the offensiveness of the three traits was checked on a verbal level by the following device.

A group of 36 men from one of the writer's classes rated 31 obnoxious non-sexual character traits on a seven-point scale, place 1 being labelled "neutral" and place 7 "very offensive." Stinginess obtained an average rating of 4.50 (10th in rank); obstinacy averaged 4.03 (12th in rank); disorderliness averaged 4.28 (11th in rank). Bashfulness, used as a control trait in the projection experiment, averaged 1.97 (23d in rank). The instructions were as follows:

Below are listed a number of character traits, or general reaction patterns, which characterize to a greater or less degree the behavior of many people. Some are offensive and some are about neutral, i.e., they neither irritate us nor are we glad to perceive them. After each trait are 7 spaces. The first space indicates neutrality and the seventh indicates extreme offensiveness. The intervening spaces indicate various degrees between these two extremes. Place a cross in the appropriate space after each trait to indicate how neutral or offensive that trait is to you when you see it in other people.

¹An excellent summary of the relationships between homosexuality, projection, and paranoid schizophrenia is given by O. Fenichel (1).

²Orderliness rather than disorderliness is, of course, the third anal-erotic trait, but the reprehensible antonym has been used for the sake of consistency.

METHOD

In order to test for the operation of projection as here redefined, the measurement of three variables was required:³ first, the degree to which each individual demonstrated a given trait, i.e., a "true" measure of his stinginess or other trait; second, the amount of that trait he attributed to his associates; and third, the presence or absence of insight with respect to his possession of the trait.

Subjects. The cooperation of three fraternities was secured through members who were registered in the writer's classes. House A had 37 members, all of whom had lived together at least seven months; House B had 38 but as in the case of House C, which had 22 members, the experiment was carried out in the fall and some of the members had lived in the house only two months.

Rating Scales. Four seven-point graphic rating scales, one each for *stinginess*, *obstinacy*, *disorderliness* and *bashfulness*, were distributed two at a time at two house-meetings a week apart. The *bashfulness* scale was not used with House A but was included for the other two houses as a check on the assumption that a trait need be highly repellent in order to be projected; as noted above, bashfulness was rated by a separate group as much less obnoxious than the other three traits. For each fraternity the names of the members were placed on one mimeographed sheet in alphabetical order and the subjects were instructed to rate each person in turn, including the rater himself, from the top down. Each name was followed by 7 equal squares labelled at the top of the sheet, from left to right, as follows:

Stinginess: 1. generous, perhaps an easy mark; 2. rather easy-going; 3. sensible about use of possessions; 4. cautious but not a tight-wad; 5. fairly careful of his rights as an owner; 6. pretty tight about most things; 7. very stingy. *Obstinacy:* 1. easy to persuade, suggestible; 2. agreeable to others' plans; 3. often willing; 4. a trifle hesitant; 5. usually has a "better" plan; 6. anxious to have own way; 7. very obstinate. *Disorderliness:* 1. painfully neat, perfect order; 2. finicky about details; 3. fairly tidy; 4. about average; 5. careless; 6. pretty messy, untidy; 7. no attempt at order. *Bashfulness:* 1. always con-

³No attempt was made in the present study to investigate the nature of projection in terms of consciousness or unconsciousness.

spicuous, good mixer; 2. very self-possessed; 3. meets people easily; 4. slightly reserved, not timid; 5. dislikes meeting strangers; 6. self-conscious, timid; 7. painfully bashful.

On the first occasion detailed instructions concerning the best methods of rating were given, with proper cautions against "skewed distribution" and "halo effect." The concept of *units of conduct* as opposed to that of *character trait* was discussed and the subjects were urged to base their judgments on specific incidents as much as possible. No special instructions were given for the other ratings. To test the hypothesis that a trait must be considered reprehensible in order that projection might occur, the rating scale for the 31 character traits was presented to the members of Houses B and C with these instructions:

Here are a number of character traits. Pay special attention to those that we have used for ratings in this experiment. You will see that the column on the left, number 1, is labelled "neutral," and number 7, on the right, is labelled "very offensive." Check the column for each trait which will most accurately describe how offensive it would be to you to be considered as possessing that trait. In other words, tell how much you would dislike being called "ambitious," "affectionate," etc. If you would rather *like* to be considered as having some of the traits just leave all spaces following those particular traits blank. Do this very carefully and try to be strictly honest about it. Be especially careful about those we have used in this experiment. Be sure to put your name on the back of the paper.

Experimental Conditions. Each man took his scales to his own room and made the ratings by himself. The writer collected the finished products downstairs and, in the case of House A, asked each man to write on the back of one of his sheets the names of the five men he liked best in the house and the five he liked least. Perhaps one of the best indications that the judgments were made honestly was the fact that, although assurance had been given that all ratings would be absolutely confidential, nearly half the men asked for reassurance when the papers were handed to the writer.

Measures of the three essential variables were secured from the obtained data as follows: *first*, the degree to which each individual demonstrated a given trait was determined by averaging the com-

bined ratings assigned to him on that trait by the other members of his house; *second*, the amount of a given trait attributed to others was obtained by averaging the ratings a given individual assigned to the other members of his living group on that trait; and *third*, the factor of insight was measured only in terms of presence or absence. A subject was said to possess insight if he rated himself in the same half of the distribution as others rated him, and to lack insight if he rated himself in the other half. Thus, a subject placed above the average for the group by his associates' ratings on him was said to possess insight if he rated himself above the average he assigned to the group in his own ratings; he lacked insight, however, if he placed himself below the average rating he assigned to the group. Likewise, a subject placed below average by his associates possessed insight if he placed himself below the average rating he gave others, but lacked insight if he placed himself above the average he gave others. This is, of course, a very rough gradation but in view of the coarseness and probable lack of reliability of the self-ratings it was deemed useless to use any finer measure.

Scores for the first (combined ratings) and second (average rating attributed to others) variables were converted to standard scores in order that the three houses might be combined on each trait into one large group. The subjects were then divided into four sub-groups as follows: A—those above average in a trait but without insight; B—those above average, with insight; C—those below average but without insight; D—those below average, with insight.

RESULTS

1. *Reliability of Measuring Instruments.* The half-and-half reliabilities as corrected by the Spearman-Brown formula are given

TABLE 1

HALF-AND-HALF RELIABILITIES, AS CORRECTED BY THE SPEARMAN-BROWN FORMULA, OF THE MEASURES OF THE FIRST AND SECOND VARIABLES IN HOUSES A, B, AND C

Trait	First variable			Second variable		
	A	B	C	A	B	C
Stinginess	.85	.81	.88	.49	.91	.72
Obstinacy	.93	.86	.87	.67	.52	.75
Disorderliness	.96	.96	.81	.50	.70	.72
Bashfulness		.95	.94		.72	.50

in Table 1 for the first and second variables. No measurement was possible of the reliability of the third variable (insight). The average of the reliability coefficients for the combined ratings was $+.89$ and for the average rating attributed to others $+.65$.

2. *Projection and the Lack of Insight.* If projection were operating in every subject, without relation to insight, a high positive correlation would be expected between "true" stinginess, obstinacy, disorderliness, or bashfulness (first variable), and the mean size of the attributed ratings on the respective traits (second variable). Such calculations were made for all four traits and the obtained coefficients are given in Table 2. They are of negligible size for

TABLE 2
COEFFICIENTS OF CORRELATION BETWEEN THE FIRST AND SECOND VARIABLES ON
ALL FOUR TRAITS IN THE GROUP AS A WHOLE AND IN THE
INSIGHTFUL AND NON-INSIGHTFUL SUBGROUPS
TAKEN SEPARATELY

Trait	Whole		Group		Non-insightful	
	N	<i>r</i>	N	<i>r</i>	N	<i>r</i>
Stinginess	97	— .03	65	— .08	32	+.09
Obstinacy	97	+.01	63	— .15	34	+.34
Disorderliness	97	— .35	66	— .46	31	+.13
Bashfulness	60	— .32	39	— .34	21	— .22
Average		— .17		— .26		+.08

two traits and negative to a moderate degree on the other two. But these correlations do not serve as a valid test for the operation of the process since the factor of insight is not considered.

The critical comparison for the projection hypothesis lies between the means of the attributed ratings of Group A (e.g., stingier than average but without insight) and Group B (stingier than average but with insight). According to the hypothesis the non-insightful group should attribute a greater degree of stinginess to others than should the insightful group. In Table 3 are given the mean ratings assigned to others by each of the four groups on all four character traits. In each case the mean attributed rating is greater for A than for B. In Table 4 are shown the differences, their probable errors, and the critical ratios of the differences.

A similar relationship holds true between Groups C and D; those

TABLE 3

MEAN RATINGS ASSIGNED TO OTHERS (SECOND VARIABLE) ON ALL FOUR TRAITS BY EACH OF THE FOUR GROUPS DESCRIBED IN THE TEXT

Values given are Standard Scores. The mean ratings in distastefulness assigned by the group as a whole to each of the traits are also given; these values are raw scores from a seven-point scale.

Trait	Degree of distastefulness	n	Group							
			A		B		C		D	
			M	n	M	n	M	n	M	n
Stinginess	5.34±.16	20	+.23±.14	22	+.02±.12	12	-.29±.17	43	-.01±.09	
Obstinacy	4.33±.19	22	+.37±.13	21	-.29±.15	12	-.49±.24	42	+.06±.11	
Disorderliness	5.00±.17	11	+.16±.22	30	-.55±.12	20	-.01±.12	36	+.42±.07	
Bashfulness	3.68±.20	7	-.20±.19	20	-.41±.13	14	+.06±.13	19	+.41±.17	

TABLE 4

DIFFERENCES AND RELIABILITIES OF DIFFERENCES OF MEAN ATTRIBUTED RATINGS (SECOND VARIABLE) BETWEEN GROUPS A AND B AND BETWEEN GROUPS C AND D

Trait	A—B			D—C	
	Diff.	P.E.	Diff.	Diff.	P.E.
Stinginess	.21±.18	1.1	.28±.19		1.4
Obstinacy	.66±.20	3.3	.55±.26		2.1
Disorderliness	.71±.25	2.8	.43±.14		3.1
Bashfulness	.21±.28	.7	.35±.21		1.7

who were more generous than average but were without insight attributed greater generosity to others, on the average, than did those who were more generous than the average but recognized the fact. This relationship likewise holds true for all four traits. The sizes of the differences between A and B and between C and D are not large but in all cases are in the same direction.

It would perhaps be more desirable to state this relationship in the form of a partial correlation coefficient, the correlation being between the first and second variables with the third (insight) partialled out. This is not possible with the present data, however, since the measure of insight depends on the relation between the self-rating and the first variable.

If the total group is split into two subgroups on the basis of

presence or absence of insight, however, a statement can be made in correlational terms of the relation between the first and second variables. In Table 2 are shown these values for all four traits. The relationship is consistently negative in the insightful group and positive in the three largest non-insightful groups. These signs are, of course, consistent with the directions of difference between the four groups as described above.

In summary, these results satisfy the expectations of what should occur in this experimental situation if the projection mechanism were operating. To put it briefly with stinginess as an example: those who were more stingy than average but had no insight rated other people higher in stinginess, on the average, than did those who were equally stingy but recognized their own characteristics in that respect. The same may be said for those who fell on the generosity side of the distribution. Thus the non-insightful groups gave more extreme ratings than did the insightful groups. They were more biased in their judgments and this bias was in the same direction from the mean as they were themselves with respect to their possession of a given trait.

Without belaboring the question of whether the lack of insight was a result of repression in the Freudian sense, or whether it was a conscious or unconscious process, it can be said that the *effects* of projection have appeared in this situation in a way that was predictable from the present redefinition of that process.

3. *Characteristics of Projected Traits.* The hypothesis was presented above that those habits or attitudes which were persistently motivated and were considered reprehensible by the subjects would be most susceptible to projection. No technique was available for measuring the persistence of the motivation behind the habit-patterns studied; this characteristic must remain, for the present, hypothetical. Some measure was obtained, however, of the distastefulness of or the reprehensibility attached to each trait by each subject in Houses B and C. In Table 3 are given the means of the combined "offensiveness-ratings" of all subjects on each of the four traits. The traits maintained the same relative positions with regard to distastefulness as were found in the independent group of 36 men referred to above. The absolute values were slightly higher for the first three traits and markedly higher for bashfulness, a result perhaps of difference in

instructions in the two instances. This obtained rating invalidated the use of bashfulness as a non-reprehensible control.

In order to compare the obnoxiousness attached to the traits by those who possessed them to more than average extent but had no insight (Group A) with that attached to them by those who possessed them to equal extent but had insight (B), the average of the ratings assigned to all four traits by both groups was determined. For Group A it was $4.97 \pm .24$ and for Group B $4.39 \pm .17$. The difference is $.58 \pm .29$, the critical ratio being 2.0. Similar comparisons for Groups C and D show the former to have a mean of $4.53 \pm .23$ and the latter $4.88 \pm .14$; the difference is $.35 \pm .27$ with a critical ratio of 1.3.

These differences are small and exceedingly unreliable, although the direction of difference, at least between A and B, is that to be expected from the hypothesis as presented. Those subjects who were without insight into their possession of the traits demonstrated a greater distaste for the idea of being accused of possessing them than did those subjects who had insight. The difference between C and D is difficult of interpretation without similar ratings on generosity and the other antonyms of the trait-names used.

In spite of the direction of difference between A and B the hypothesis that a trait must be considered reprehensible in order to be projected cannot be sustained on other grounds. The low ratings on stinginess may be considered as high ratings on generosity. Each reprehensible trait has a socially acceptable opposite which is simply a trait-name, attached to the opposite end of the distribution, and the process of projection occurred, apparently with equal strength, at both ends of the distribution, i.e., with both the reprehensible traits and their socially acceptable opposites (Table 4). That subjects who had reprehensible traits without insight (Group A) rated those traits as more distasteful than did subjects who had insight (B) is not evidence that reprehensibility from the subject's standpoint is an essential characteristic of a projectable trait. This relationship suggests, only, the concurrent operation of other dynamic processes as yet uninvestigated.

4. *The Tendency of a Subject to Lack Insight on More than One Trait.* In Table 5 is shown for each fraternity the number of subjects who lacked insight, i.e., who belonged either to the A or to

TABLE 5
NUMBER OF SUBJECTS IN EACH FRATERNITY WHO LACKED INSIGHT ON
VARIOUS NUMBERS OF TRAITS FROM ALL TO NONE

Fraternity	Number of traits on which insight was lacking				
	4	3	2	1	0
A		4	8	13	12
B	0	3	7	17	11
C	0	4	3	8	3

the C groups, on varying numbers of traits. In House A only 4 subjects lacked insight on all three traits, 8 lacked insight on two, 13 on one, and 12 had insight for all three traits. Since the size of the insightful and non-insightful groups varied unsystematically with each trait in each house, no theoretical distribution-by-chance can be given for comparison, but the table shows no marked grouping of subjects at the four-traits end of the distribution. It may safely be concluded that the tendency to lack insight is largely specific to any given trait and is not a general personality trait which shows its influence in judgments made on all traits.

DISCUSSION

The consistently negative correlations found in the insightful groups between amount of trait possessed and amount attributed to others suggests the presence of a dynamic process which operates in the opposite direction from projection. For example, a stingy subject does not, as in projection, attribute stinginess to others; quite on the contrary, he attributes generosity. Others' personalities are perceived in contrast to the individual's own. This process occurs in the presence of insight rather than its absence, as is the case with projection, and in order conveniently to differentiate it from projection it is suggested that it be called *contrast-formation*.

The conclusions as itemized below are based on averages and correlations which necessarily fail to consider the individual case. The low reliabilities of nearly all differences indicate the presence of not infrequent individual exceptions to the general tendencies exhibited by the group as a whole. How much these low reliabilities are dependent on lack of reliability of the measuring instruments (unsystematic factors) and how much on systematically operating

mental processes which have not been measured it is impossible to say. "Insight" and "reprehensibility," considered as influencing factors, have been measured in the present study; the former was found to be definitely influential and the latter influential to some degree but not in the way suggested by the original hypothesis. The demonstration of this unclear relationship and the significant effect of a lack of insight should serve as a warning against over-simplified "tests" of psychoanalytic hypotheses.⁴ Many of these hypotheses are exceedingly complex, involving the interaction of several factors for which too frequently the experimental psychologist has no adequate method of measurement. The lack of clear and concise definitions in the psychoanalytic literature is doubtless a result of this complexity but it is to be hoped that analysis of clinical and theoretical literature will allow experimentalists to derive definitions and descriptions for use as provisional laboratory hypotheses.

CONCLUSIONS

1. Those subjects who lacked insight into the amount of a given trait they themselves possessed tended, on the average, to attribute a greater amount of that trait to other people than did those subjects who possessed an equal amount of the trait but had insight. This fact is in accord with the principle of projection as redefined above.
2. Subjects lacking insight into their own possession of a trait assigned more extreme ratings to others on that trait than did subjects possessing insight. This difference was in the same direction from the mean as was the subject's own deviation in that trait.
3. Projection was not operative in influencing the judgments of all subjects on any given trait; its occurrence was apparently confined to those who lacked insight.
4. In the group of subjects who possessed insight a negative correlation was found between amount of trait possessed and amount attributed to others. This suggests the operation of a dynamic process, tentatively entitled *contrast-formation*, which has an effect opposite that of projection on judgments about others' personalities.
5. Judgments about other people with respect to both acceptable

⁴Hypotheses to the experimental psychologist; demonstrated principles to many psychoanalysts.

and unacceptable (reprehensible) traits showed the influence of projection and contrast-formation.

6. Those subjects who lacked insight into their own possession of reprehensible traits considered the reprehensibility of those traits greater than did those subjects who had insight.

7. There was no evidence that lack of insight was a general tendency influencing a given subject's judgments on all traits; it seemed to be specific to one trait rather than to be a general "personality trait" in itself.

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DES ÉTUDES EXPÉRIMENTALES DE LA PROJECTION: I. L'ATTRIBUTION DES TRAITS

(Résumé)

On définit de nouveau la projection pour des buts expérimentaux comme l'attribution à d'autres personnes des traits ou des désirs que possède un individu mais qu'il ne reconnaît pas chez lui-même (manque de connaissance profonde). Les membres de 3 fraternités vivantes se sont estimés eux-mêmes et les uns les autres à l'égard de l'avarice, de l'obstination, du désordre et de la timidité sur des échelles de 7 points. Ceux qui ont possédé plus que la quantité moyenne des traits selon l'estimation de leurs associés ont été divisés en deux groupes secondaires: ceux qui ont reconnu

leur propre avarice ou autre trait (connaissance profonde) et ceux qui se sont estimés moins avaricieux que les moyens (nulle connaissance profonde). Les membres du dernier groupe ont estimé d'autres plus sévèrement, *c'est-à-dire*, plus avaricieux, plus obstinés, etc., que l'ont fait les membres du premier groupe. La même relation s'est montrée vraie aux extrémités opposées des distributions; *par ex.*, les hommes généreux sans connaissance profonde ont estimé que les autres possédaient plus de générosité que l'ont fait ceux qui étaient généreux mais possédaient une connaissance profonde. Chez les sujets sans connaissance profonde il y a eu une corrélation positive entre la quantité du trait possédée et la quantité attribuée aux autres. Cette corrélation a été négative chez les sujets possédant une connaissance profonde; ce fait suggère l'opération d'un procédé dynamique, provisionnellement appelé *contraste-formation*, lequel a un effet contraire à celui de la projection sur les estimations des personnalités des autres.

SEARS

EXPERIMENTELLE STUDIEN ÜBER DIE PROJEKTION:

I. BEIMESSUNG DER CHARAKTERZÜGE (Referat)

Projektion wird zu experimentellen Zwecken wiederdefiniert als die Beimessung anderen Leuten die Charakterzüge oder Wünsche, die ein Individuum besitzt, aber die es in sich selber nicht erkennt (Mangel an Einsicht). Die Mitglieder drei Studentenverbindungen rangierten sich und jedes der anderen in bezug auf Geiz, Eigensinn, Unordentlichkeit und Schüternheit auf Skalen von 7 Punkten. Diejenigen, die von den anderen als im Besitz von mehr als den Durchschnitt der Charakterzüge beurteilt wurden, wurden in zwei Gruppen eingeteilt: diejenigen, die ihren eignen Geiz oder anderen Charakterzug (Einsicht) erkannten und diejenigen, die sich selber als weniger geizig als beim Durchschnitt (keine Einsicht) beurteilten. Die letztere Gruppe beurteilte andere Leute genauer, d.h. als geiziger oder eigensinniger usw. als bei der ersteren Gruppe. Dasselbe Verhältnis galt für die entgegengesetzten Ende der Verteilungen; z.B. beurteilten grossmütige Männer, die einen Mangel an Einsicht besaßen, andere Leute höher an Grossmut als diejenigen, die grossmütig waren, aber Einsicht besaßen. Bei den Vpn., die einen Mangel an Einsicht hatten, gab es eine positive Korrelation zwischen der Menge des Charakterzuges und der Menge, die anderen beigemessen wurde. Diese Korrelation war negativ bei den einsichtsvollen Vpn; diese Tatsache weist auf die Wirkung eines dynamischen Prozesses hin, die als *Kontrastgestaltung* probend genannt wird, die eine der Projektion der Urteile über andere Persönlichkeiten entgegengesetzte Wirkung besitzt.

SEARS

VOTERS' ATTITUDES TOWARD MEN AND ISSUES*

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Classical political theory, like classical economic theory, has been much affected by the early psychological assumption of a "rational man" who always weighed carefully the possibilities of a given situation and then did the reasonable, sensible thing. In spite of the reaction from this point of view that is represented by Wallas (3) and McDougall (1), it has persisted in our everyday thinking to a considerable extent. It still remains one of the principal arguments for representative democratic government.

What are the assumptions of such an argument? If an administration, elected by a majority of the electorate, is to represent the latter's wishes other than purely fortuitously, several conditions must be fulfilled: (1) the voters must know what they want; (2) the candidates for elections must make their own policies explicit; (3) the people must then vote for the candidates who best represent the policies of which they approve; (4) and finally, the elected administration must carry out its announced pre-election policies. At any of these points the scheme may break down, and at none of them does it function perfectly.

The social psychologist is particularly interested in the first and third of these conditions, i.e., the distribution of articulated political attitudes, and the motivation of the voting behavior of the electorate. The political scientist is concerned with the fulfillment of all four conditions and, while emphasis cannot be placed on all four in the present study, an attempt will be made to throw whatever light is possible on the questions so raised.

A questionnaire was constructed to reveal the current attitudes of voters towards the most important issues of the presidential campaign of 1932 and to enable the determination of the relationship of such attitudes to occupational level, sex, state and city residence,

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party affiliation in 1928, intended party vote in 1932, and expectation of the winner in the 1932 election.

The issues represented by the statements on the questionnaire were as follows: prohibition, unemployment relief, tariff, progressive taxation, farm relief, budget, armaments, government in business, war debts, currency, World Court and Russia, and veterans' relief. There were two statements concerning each issue, usually representing the opposed views of two parties. For instance, the statements concerning the tariff were: *The tariff should be used to protect the American workman, farmer, and business man from foreign competition*; and *The tariff should be substantially reduced in order to encourage an increase in our foreign trade*. The voters signified their acceptance of, rejection of, or doubt concerning each statement.¹ Through the cooperation of the National League of Women Voters, 11,834 of these questionnaires were filled out in interviews with men and women voters of varied occupational status and scattered through 37 of the United States. Three thousand four hundred fifteen had to be eliminated because they were incomplete in some respect, leaving 8419 available for use in this study.

I. DID THE VOTERS KNOW WHAT THEY WANTED?

As the questionnaire contained many pairs of mutually contradictory statements, it might reasonably have been expected that the summation of the replies given by any individual or by any group would be fairly evenly divided between acceptance and rejection. In other words, any group that accepted the necessity of large armaments would reject the proposal advocating their reduction, and its replies to that pair of statements, when added together, would total up to the same number of "yeses" and "noes." If the voters knew what they wanted, and if their wishes were consistent, we should expect the total for the twelve pairs of statements consequently to show nearly equal proportions of acceptance and rejection.

¹For further details concerning the questionnaire, its collection, and the proportions of each sex, occupational group, and political party, see Robinson (2). For the proportions of voters in each state, see an ensuing article by the present author, *Regional Differences in Political Attitudes*. Other information on these and subsequent points, prior to publication, can be found in the author's doctoral dissertation, *Voters' Attitudes Toward Men and Issues*, deposited in the Yale University Library.

TABLE 1

DISTRIBUTION OF ACCEPTANCE, DOUBT AND REJECTION WITHIN EACH GROUP
OF VOTERS (IN PERCENTAGES)

Voter group	Yes	Doubtful	No
Professional workers			
Republicans			
Men	49	19	33
Women	47	24	29
Democrats			
Men	51	20	29
Women	49	26	25
Socialists			
Men	50	19	30
Women	48	24	28
Semi-professional & managerial workers			
Republicans			
Men	50	18	33
Women	48	23	29
Democrats			
Men	54	20	27
Women	53	22	24
Socialists			
Men	41	21	28
Women	50	24	27
Clerical & skilled trades workers			
Republicans			
Men	50	18	32
Women	46	26	28
Democrats			
Men	56	19	25
Women	51	27	22
Socialists			
Men	54	20	26
Women	49	26	25
Farmers			
Republicans			
Men	49	21	30
Women	45	28	27
Democrats			
Men	53	23	24
Women	51	27	22
Socialists			
Men	53	21	26
Women	50	24	26
Factory workers			
Republicans			
Men	53	18	29
Women	46	29	25
Democrats			
Men	56	23	21
Women	49	34	17
Socialists			
Men	53	26	21
Women	59	26	15

But were these proportions equal? Look at Table 1. Fifty-four per cent of all the replies to the questionnaire statements were in the affirmative, 24 per cent were in the negative, and 22 per cent were doubtful. The proportions varied for each separate statement and for each group of voters, but this is a fair approximation. The 22 per cent of doubtful answers was concerned largely with the issues of direct Federal aid to the unemployed, World Court membership, the liberal issuance of money, liberal Federal borrowing during hard times, heavy taxation of the rich, and recognition of Soviet Russia, about each of which from 30 to 40 per cent of the voters were undecided. Note especially (Table 1) that the women were responsible for distinctly larger proportions of the doubtful attitudes (about 26 per cent) than were the men (about 19 per cent). And it is important to realize that over a fifth of all the voters' attitudes towards the political issues of the 1932 campaign were attitudes of doubt.

But why was there so much more affirmation than negation? It is true that there were some pairs of statements both members of which could have consistently been accepted, but there were quite as many where both members might have been rejected. The real reason for part of this excess, as will be elaborated in a forth-coming paper, was that an eighth of all the non-doubtful answers were logically inconsistent. (Such was considered to be the case when, for instance, the same person accepted both of two logically mutually exclusive statements, such as: *The war debts should be paid at once and in full*, and *The war debts should be canceled immediately*.)

Thus, only about two-thirds of all the expressed attitudes of the voters were in their own minds well enough formulated to be considered as potential determiners of any reasoned choice of the men who should be their representative. The rest were attitudes of doubt, or attitudes that were inconsistent among themselves.

II. WHAT DID THE VOTERS WANT?

By the "voters," we must mean the majority, obviously, for there was no wide unanimity of expressed attitudes. And we cannot overlook the fact that the voters in different regions, in different parties, in different occupational classes, and of different sexes accepted or rejected the statements concerning the issues of the campaign with varying degrees of unanimity. However, not only was the bare fact

of majority approval or disapproval generally consistent throughout these diverse groups of voters, but the actual proportions accepting or rejecting each statement were surprisingly similar. The average difference (for 24 statements) in these proportions between the Republicans and the Democrats was about 11 per cent, between the men and the women about 5 per cent, and between the professional workers and the factory laborers (the extremes of the occupational series) about 12 per cent.

In the tabulation of their answers, the voters were separated into groups that were homogeneous as regards occupation, sex, and political affiliation in 1932. The detailed totals of acceptance, doubt, and rejection are not included here because Robinson (2) has already published tables giving the proportions of answers on the majority side. The other proportions can be obtained, if desired, from the author's dissertation. (Footnote 1, above.)

The percentages of the total voters given below are approximations which were obtained by weighting the several groups in the sample with regard to the proportions of the population they represented. However, in view of the comparatively small differences between the groups, the weighting had little significant effect.² The percentages given actually varied, usually within five per cent either way for the 30 separate groups. The reliability of the majority in each group was determined by the method presented by Yule (4) for deciding whether the deviation of the observed number from an expected theoretical value (50 per cent of the non-doubtful answers) could be due to errors of sampling.

A significant majority of the voters *accepted* the statements that:

The currency of the United States should be kept sound at all hazards. (91%)

Governmental expenditures should be drastically reduced. (85%)

The United States should maintain an army and navy at least equal to those of the other great powers. (80%)

The Government should support only those veterans disabled during the war. (80%)

² For most of the statements only the majority percentage is given. The other answers were, of course, divided between the doubtful ones and the minority side. Thus 50 per cent may represent a substantial majority if the other voters are fairly evenly divided.

The tariff should be used to protect the American workman, farmer, and business man from foreign competition. (75%)

It is the duty of the Federal Government to place farming on an equal footing with industry. (73%)

The Federal Government should protect those states which wish to retain prohibition. (73%)

The war debts owed to the United States should be paid at once and in full. (68%)

The rich should bear a larger proportion of the burden of taxation. (66%)

The farmer should adjust his production to the law of supply and demand. (66%)

The 18th amendment should be repealed. (64%)

The Government should keep out of business. (56%)

Federal aid in the economic crisis should be confined to state and local governments and to government-supervised institutions like banks and railroads. (51%)

Significant majorities of the voters *rejected* the statements that:

All war debts should be immediately cancelled. (70%)

The Government should pay the soldiers' bonus at once and in full. (69%)

The Federal Government should extend financial aid directly to private citizens. (57%)

Railroads, power companies, and banks should be owned by the government. (53%)

Less than 50 per cent of the voters either accepted or rejected the statements that:

The United States should lead the way to peace by reducing her army and navy. (25% for, 45% against)

What this country needs is a liberal policy in issuing money. (23% for, 35% against)

In times of economic distress there should be liberal borrowing by the Federal Government. (32% for, 28% against)

High taxes on the rich will retard recovery of prosperity. (28% for, 34% against)

The tariff should be substantially reduced in order to encourage an increase in our foreign trade. (45% for, 31% against)

The United States should join the World Court. (42% for, 25% against)

The United States should recognize Soviet Russia. (23% for, 38% against)

Here, then, is a picture of the attitudes of these voters at the time of the presidential election in November, 1932. They were not unanimous in their attitudes. There were many dissenters, many doubters, and many whose attitudes were at times inconsistent. But there were considerable and statistically reliable majorities accepting or rejecting 17 of the 24 statements concerning the most prominent issues of the campaign.

III. DID THE CANDIDATES FOR ELECTION MAKE THEIR OWN POLICIES EXPLICIT?

This is a question that a political scientist would be better qualified to answer, but a summary can be given here, distilled from the mass of campaign speeches and the nebulous phraseology of party platforms.

Prohibition. The Democratic and Socialist leaders advocated outright repeal, while the Republicans hedged with the advocacy of some sort of *change*, perhaps in the form of a new amendment superseding the old but retaining some of its regulations. No responsible spokesman for the Hoover administration favored outright repeal.

All three major parties explicitly advocated protection of the dry states by the Federal Government.

Unemployment Relief. The Socialist platform was the only one to propose direct Federal financial aid to private citizens. Republican leaders definitely opposed such direct aid. Democratic leaders did not come out very definitely on the question, but it was believed that they planned merely a liberal expansion of RFC loans to states, and not a direct "dole."

The corollary, on the questionnaire, that federal aid should be *confined* to local governments and to certain sorts of institutions, was the position taken by the Republicans, while the Democrats did not make their stand clear, and the Socialists were, of course, opposed.

Tariff. Both Republican and Democratic leaders favored the principle of tariff protection, though differing, at least in general, on the extent to which it should go. The Socialist leaders were opposed.

As for reduction of existing tariffs, the Democrats claimed to favor such reduction (except for agricultural products), the Socialists were manifestly in favor, and the Republicans were unalterably opposed.

Taxation. Both the Socialist and Democratic leaders advocated the rigid application of the principle of progressive taxation, with the

rich bearing the heaviest burdens. The Republicans did not commit themselves on this point.

None of the party leaders were committed on the subject of the effect of high taxation of the rich upon the recovery of prosperity.

Farm Relief. All three parties were promising to help the farmer, though their plans were vague enough, and so we should expect all the leaders to have rejected the idea that it was the farmer's own responsibility to adjust his production to the law of supply and demand. They all seemed to consider that helping him do so was a legitimate activity of the Federal Government.

Budget. Both Republican and Democratic leaders strongly advocated the immediate reduction of governmental expenditures. This was true both of their platforms and of their speeches. Only the Socialists put forward the idea of great appropriations for relief and for public works.

As for liberal borrowing by the Federal Government, this would have been intimately linked up with expenditures, and we can safely assume that, in declaring their wish for a balanced budget, the Republican and Democratic leaders meant that they opposed liberal borrowing, while the Socialists were alone in their advocacy of it.

Armaments. The Republican leaders advocated "parity with any nation" in the matter of armaments. The Democrats did not commit themselves, while the Socialists were definitely opposed.

Similarly, the Socialists advocated the exemplary reduction of our armaments, the Republican leaders opposed this, and the Democratic leaders were non-committal.

Government and Business. The Socialist leaders, of course, were the only ones whole-heartedly in favor of government ownership of railroads, power companies and banks, although Roosevelt favored the ownership, in certain cases, of power plants while opposing further extension of government activities. The Republican leaders branded all such proposals as undesirable.

As a whole, it would be fair to describe the leaders of both major parties as favoring the removal and exclusion of government from almost all fields of private enterprise, whereas the central feature of the Socialist program was the extension of government enterprise.

War Debts. The leaders of both major parties opposed the cancellation of war debts, while the Socialist leaders favored such can-

cellation if the money so released were not to go for increased armaments.

The question of their payment in full was not explicitly brought out by party leaders, but they recognized the difficulties in the way of payment, and probably would not have opposed some sort of revision. The Socialist leaders were clearly opposed to full payment.

Currency. Both Democratic and Republican party leaders advocated in no uncertain terms the preservation of a "sound currency" at all hazards. Thomas, however, predicted that we should be compelled to leave the gold standard and so would have opposed our suffering the progressively greater hardships entailed in preserving such a currency (if the gold standard can be called the criterion of a sound currency).

The liberal issuance of money would have been contrary to all that the Democrats and Republicans had proclaimed about the soundness of the currency, so we can assume that they were opposed to it (in spite of the Democratic passage of the Patman Bill). The Socialists were not committed on this specific question.

World Court and Soviet Russia. The platforms of all three parties favored joining the World Court, though the two major parties qualified by recommending certain reservations.

Neither of the two major parties was committed on the question of recognizing Soviet Russia, but the Socialists explicitly advocated it.

Veterans' Relief. Full and immediate payment of the bonus was opposed in the utterances of the main leaders of all three parties, though with varying degrees of emphasis.

The qualification that Government support should be only for war-disabled veterans was emphasized by Democratic leadership, but was not mentioned by the Socialists. It is strange that there crept into the Republican platform a plank more favorable to the veterans than that of the Democrats. The Republicans *accepted* the Government's obligation to support veterans and their dependents even where decease or disability was not attributable to service.

Summary. It is evident from the above that, as far as the campaign pronouncements and the platform planks were concerned, the main differences between the leadership of the two major parties concerned outright repeal of the 18th amendment and reduction of existing tariffs. In both of these issues the Socialist leaders sided with the

Democratic. Except for differences in emphasis, the major party leaders presented no other clear-cut issues. Most of the important differences between the parties on the issues that played the largest rôles in the great pageant of campaign oratory divided the political leaders into the Socialists versus the combined representatives of the major parties.

IV. DID THE VOTERS SUPPORT CANDIDATES WHO WERE REPRESENTATIVE OF THEM?

Only if there can be shown a marked correspondence between the policies of a candidate and the attitudes of his constituents can it be postulated that these policies have an important place in determining the vote that is cast. That there is such a correspondence is a vital assumption of the argument for representative government.

If we analyze in more detail the description of the attitudes of the voters given above in Part II, taking the political groups separately (those who intended to vote for Hoover in 1932 were considered to be Republicans, etc., for the purposes of this study), we can compare the attitudes of the majority of each party with the policy enunciated by its leaders and described above in Part III.

Republicans. Of the eight majority attitudes which 75 per cent or more of the Republicans expressed, all but one were, in the same or in similar words, included in their party platform and speeches. The only exception concerned the advocacy by the voters of the limitation of Government support to veterans with service-connected disabilities. The Republican platform advocated "adequate" provision for all disabled veterans and their dependents, even where the disability was subsequent to and "not attributable to war."

Of the nine majority attitudes which from 50 per cent to 75 per cent of the Republicans expressed, six were included either in the platform or in the campaign speeches, and two were neither subscribed to nor rejected. The one clear case of a lack of correspondence here had to do with the voters' demand that the farmer should adjust his production to the law of supply and demand. This was, of course, completely at odds with the idea of the Farm Board, endorsed in the platform, and with the whole plan for placing farming on a more equal footing with industry by raising tariffs on agricultural goods and by lessening the farmer's burden of taxes. Evi-

dently the platform was more consistent, logically, than the voters, for they were able to accept *both* of the questionnaire statements on farm relief. To be consistent, the platform was forced to be unrepresentative of the majority of the Republican voters.

Of the seven majority attitudes which less than 50 per cent of these voters expressed, the party platforms and speeches correctly represented their views on all but two. One was not mentioned, and the other had to do with repeal of the 18th amendment. A small majority of the Republican voters favored such repeal, but their presidential candidate advocated, instead of outright repeal, some new amendment which should retain certain safeguards against the return of the saloon and inter-state bootlegging.

Democrats. Of the seven majority attitudes expressed by 75 per cent or more of the Democratic voters, six were very explicitly included in party platform and campaign speeches and the seventh was neither approved nor disavowed.

Of the eight majority attitudes which were expressed by from 50 to 75 per cent of the voters, five were correctly represented by the leaders and one was not mentioned at all. The approval of the voters of requiring the farmer to adjust his own production was, as with the Republicans, contrary to the leaders' manifold proposals for farm relief. Moreover, the voters felt that the Government should stay out of business, while Roosevelt advocated the participation of the Government in the power business, at least.

Of the nine majority attitudes that less than 50 per cent of these voters expressed, four were correctly represented in the platform and speeches. The one on government ownership of banks, railroads, and power resources was correctly represented in the main (again excepting power), and two of the attitudes were not specifically touched upon. Two attitudes (approval of liberal borrowing, and of liberal issuance of money) were implicitly opposed by party leaders. However, the majorities of voters accepting them were small even though statistically reliable in both cases.

Socialists. Of the four majority attitudes which 75 per cent or more of the Socialist voters expressed, only one was misrepresented by their leadership. That was the one concerning reduction of government expenditures, which the voters of all parties approved, but which was contrary to many of the planks of the Socialist platform.

Of the 12 majority attitudes which were expressed by from 50 per cent to 75 per cent of these voters, eight were correctly represented in the platform and campaign speeches and two were not mentioned at all. The platform would have differed from the questionnaire statement in limiting veterans' compensation to unemployed veterans rather than putting the emphasis on the cause of their disabilities. This could hardly be called serious misrepresentation. The only plain lack of correspondence in this group of attitudes came in the Socialist voters' acceptance, like that of the voters of the major parties, of the statement advocating the farmer's adjustment of his own production, even after pointing out the real duty of the Federal Government to help him. Again, the real cause was in the inconsistency of the voters themselves.

Of the eight majority attitudes expressed by less than 50 per cent of the Socialist voters, only two showed a lack of correspondence with the policies of their leaders. As these two were expressed by only very small majorities, and as they both represented inconsistencies of the voters themselves, we need not consider them in detail here.

Summary. In the main, we see that the platforms and speeches of the political leadership during the 1932 campaign were closely representative of the desires of the electorate. Which was the causal factor, the platforms and speeches or the desires, may be hard to determine in each specific case. Undoubtedly Thomas's speeches not only won over political support but also changed some people's political attitudes. On the other hand, the leaders of the major parties especially had to be careful in framing their platforms lest they tread on the toes of too many voters. The genesis of the marked correspondence is a problem in itself. We are here concerned, limited as we are by our material, only with the extent of representation at a single point of time.

The only important cases of misrepresentation would have been avoided if the Republican leaders had been less generous in their promises to the veterans, if Roosevelt had not so staunchly advocated government ownership and operation of power plants, and if the Socialist leaders had declared for reduced governmental expenditure. The wisdom of such altered courses would have been quite open to question. Perhaps one of the most important ways in which attitudes

gradually change is through a seeping down to the voters from the leaders of the nation. Leaders cannot be merely followers. Most leaders, even political leaders, are always a little way ahead of the crowd and must perforce have somewhat different ideas. In any case we see that, though it was marked, there was not, in the fall of 1932, a perfectly strict correspondence between the attitudes of the leaders and those of their followers.

V. REPRESENTATION OF MAJOR PARTY DIFFERENCES

We saw in Part III that the clear differences between the announced policies of the leadership of the major parties consisted only in the Democratic advocacy of some reduction of tariffs (though they never acceded to the Republican request that they furnish an itemized schedule of proposed reductions), which the Republicans opposed, and in the hesitant recommendation by Republican leaders of some change in the 18th amendment, while Democrats plumped for outright repeal. And, as will appear in a later paper, in only one attitude was there a marked majority of Republicans opposed to a marked majority of Democrats. Different proportions of the two parties accepted or rejected the statements on the questionnaire, but where the differences were large enough to be significant, numerical majorities of both parties were almost always on the same side. So we are forced to a more detailed analysis to give a true picture of the extent of representation in these two parties. Otherwise it would look as though there were no such thing as a "representative Republican," as opposed to a "representative Democrat," if majorities of both parties supported the same policies and if the leaders of both parties offered the same programs to their constituents.

While no salient differences appeared other than the two above described, there were discernible differences in the *emphasis* placed by party leaders on certain policies, and these could be readily compared with the differences in the proportions of the voters of each party supporting the policies.

The largest difference between the major party voters concerned reduction of the tariff, which a moderate majority (68 per cent) of the Democrats favored and which a smaller majority (50 per cent) (see footnote 2) of the Republicans opposed. Their platforms and campaign speeches showed that the party leaders were quite represen-

tative here. Again, though the leaders of both parties accepted the necessity of *some* tariff protection, we see their attitudes reflected in the much larger majorities given by the Republicans (88 per cent) than by the Democrats (68 per cent) to the support of this statement.

Another important dissimilarity of these two parties appeared in their attitudes towards Repeal. The Democratic leaders were much more generally in favor of this than the Republican, and this difference was reflected in the voters. A large majority (80 per cent) of the Democrats favored Repeal, while the Republicans were almost evenly divided for and against. Similarly, more Republicans (77 per cent) than Democrats (67 per cent) favored Federal protection of dry states, an attitude which played no discoverable part in the campaign but supports the general picture of the Republicans as the drier of the two parties.

Immediate payment of the bonus was another important idea differentiating the voters of the major parties. Both rejected the statement advocating this, but the Republicans were more unanimous (84 per cent, as compared with 54 per cent of the Democrats). Though both platforms were silent on this specific point, the attitudes of the candidates clearly reflected the difference between the voters. Hoover declared openly, time after time, that he was flatly and unalterably against payment. Roosevelt avoided the subject as long as he could, and then merely said he didn't see where the money could come from. Smaller but still reliable differences showed the Republicans more in favor of limitation of compensation to veterans with service-connected disabilities, though the platform alone of the Republican party was unrepresentative on this point, as has already been shown.

The statement advocating liberal issuance of money was not accepted or denied by decisive majorities of the voters of either party, but the Democrats showed reliably greater proportions in favor of it (34 per cent, as against 13 per cent, many voters being doubtful). The differences in acceptance of the statement advocating a sound currency were smaller but corroborated this Democratic preference for inflation, for the Republicans were more unanimous in demanding a sound currency. The differences between the voters on this issue were not reflected in any obvious differences in the expressed policies of their leadership, at least during the campaign.

Another moderate-sized difference concerned direct Federal relief. The Republican voters were more opposed to this (68 per cent, as against 46 per cent) than the Democrats, and we may trace some reflection of this in the fact that the Republican platform had definitely opposed such aid while the Democratic platform was silent. In the related statement advocating the limitation of Federal aid to certain organizations, the Republicans were again the more conservative (59 per cent advocating limitation, while only 42 per cent of the Democrats did so).

The frankly Socialistic plank advocating government ownership of railroads, power companies, and banks was rejected by the voters of both major parties, but less of the Democrats (47 per cent) opposed it than of the Republicans (64 per cent). Likewise, more of the Republicans (60 per cent) than of the Democrats (54 per cent) accepted the statement that the government should stay out of business. Perhaps the Democratic preference was reflected in Roosevelt's proposals for Federal operation of power sites owned by the Government.

Recognition of Russia was opposed by a majority (44 per cent) of the Republican voters, while the Democrats were almost evenly divided for and against it. Although there was no pre-election policy announced concerning recognition, Hoover had consistently opposed dealings with Russia, while Roosevelt was expected, if elected, to accord her at least a better commercial status for U. S. trade, if he did not actually advocate recognition.

On both the statements concerning taxation, the Democratic voters were to a great extent in favor of heavier taxes for the rich. Such a difference may be detected in their pronouncements perhaps, for Roosevelt specifically declared approval of graduated income, inheritance, and profits taxes, while the Republicans merely advocated removal of "unjust" burdens through a reorganization of the tax basis.

As regards farm relief, somewhat greater Democratic support than Republican was shown by the voters. The differences were not great however, and no reflection of this difference was apparent in the platform and speeches of the political leadership.

Summary. As we look over these numerous statistically reliable differences in the proportions of voters of the two major parties accepting or rejecting the main issues of the campaign, we see that to

a very great extent the political leaders were representative of their constituents. In some cases this representation was a fairly subtle thing, consisting only in the difference between taking a definite stand and taking none. But all in all the group differences were closely paralleled by leader differences. However this correspondence came about, whether through the propaganda of the leaders or through the articulate and effective demands of the electorate, its existence pays tribute to the efficient working of the American electoral system. Political parties are agencies of real representation, and their pre-election policies reflect very sensitively the attitudes of the majorities of their members.

VI. HAVE THE 1932 CAMPAIGN PLEDGES BEEN KEPT?

This is a question quite outside the psychologist's field, and we shall leave its extended answer to the political scientist. However, certain outstanding facts should be noted:

Repeal came, as promised, but nothing was done about Federal protection of dry states—an explicit proposal of the Democratic platform.

The Federal Government has extended financial aid directly to private citizens. This was neither advocated nor opposed in the Democratic campaign.

We have yet to see any substantial tariff reduction, in spite of the Democratic plank proposing it.

Farm Relief has been attempted, as promised, and with a considerable measure of success.

Governmental expenditures have *not* been "drastically reduced," as advocated in the platform, and the consequent liberal borrowing has dashed all immediate hopes of an "annually balanced budget."

The Government has gone into the power business as Roosevelt proposed, but the activities of the NRA, the SEC, etc., are hard to square with the advocacy of "the removal of government from all fields of private enterprise except where necessary to develop public works and natural resources in the common interest."

The war debts were not canceled, as the platform said they should not be, even though their default accomplished much the same end.

Whether our currency is "sunder" now than before the devaluation of the dollar is a debatable point. If it is not, an impossible campaign pledge has failed of fulfilment.

We have not yet joined the World Court, though the platforms of all parties recommended it.

The bonus is still (1935) unpaid, in line with Roosevelt's dictum that it could not be paid from an empty treasury.

As we look over the record, it becomes evident that while a candidate may seem representative of a majority of his party or even of the nation as a whole *at the time of the election*, the shifting of forces and the onrush of unpredictable crises may change his policies so that he no longer closely resembles the man he was. However, what we have failed to measure may be of the greatest importance. It is perfectly possible that his acts and the events that lead up to them may make corresponding changes in the voters of the country, so that the final result is a new picture of representative attitudes, continually changing as the times change, but still representative. Certainly, the election in the fall of 1934 was hardly the scene of any wide-spread revolt against the policies of the Democratic Administration.

VII. CONCLUSIONS

1. Of the attitudes which 8419 voters expressed toward the main issues of the 1932 presidential campaign, over a fifth were attitudes of uncertainty and an additional eighth were inconsistent.

2. Seventeen of the 24 statements concerning these issues were either accepted or rejected by a statistically reliable majority of all these voters.

3. Except on the issues of prohibition and tariffs, there were no important differences between the announced policies of the leaders of the major parties.

4. With one exception in each party, the policies of the political leadership were representative of the attitudes of the majority of their constituents.

5. However, while Republicans (either leaders or voters) were not diametrically opposed to Democrats on any issue, there were many reliable differences between the proportions of the two groups of voters manifesting the several attitudes, and these differences were generally reflected in the policies of their leaders.

6. In the fall of 1932, the political leaders represented very closely the attitudes of the electorate. Although the policies announced during that campaign may never be fulfilled, the degree of representa-

tion may continue the same if the attitudes of the electorate change sufficiently.

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LES ATTITUDES DES VOTEURS À L'ÉGARD DES HOMMES ET DES QUESTIONS

(Résumé)

Dans le but de découvrir la fidélité avec laquelle les chefs politiques représentent leurs commettants, on a obtenu les attitudes de 8419 voteurs à l'égard des principales questions de la campagne présidentielle de 1932 au mois d'octobre de cette année, et l'on a comparé celles-ci aux politiques annoncées des candidats présidentiels. Les voteurs ont été des deux sexes, de divers métiers, et ont été distribués dans 37 des 48 Etats Unis.

En moyenne, plus que le cinquième des attitudes de chaque voteur ont été des attitudes d'incertitude, et un autre huitième a montré un manque d'accord les unes avec les autres.

A une exception importante dans chaque parti, les politiques des chefs ont représenté fidèlement les attitudes de leurs commettants, même au point de refléter les différences mineures entre les groupes de voteurs. Par exemple, 68% des voteurs républicains ont opposé l'aide directe fédérale pour les non employés tandis que seulement 46% des démocrates l'ont opposée d'une façon semblable (environ 25% ont eu des doutes). La déclaration de principes républicaine a opposé absolument une telle aide, tandis que la déclaration démocrate a été silencieuse à cet égard.

Les seules grandes différences entre les deux partis principaux ont été à l'égard de la prohibition et du tarif.

Depuis l'élection, les politiques du candidat réussi se sont changées à plusieurs égards et peuvent être considérées toujours représentatives seulement si les attitudes des voteurs se sont changée de la même façon.

HAYES, JR.

DIE ANSICHTEN DER STIMMENDEN ÜBER MÄNNER UND PROBLEME

(Referat)

Um zu entdecken, wie genau politische Führer ihre Wähler vertreten, sind die Ansichten von 8419 Stimmenden über die Hauptprobleme des 1932-Präsidentenfeldzuges im Oktober dieses Jahres erhalten worden, und diese wurden mit den Angaben der Präsidentenkandidaten verglichen. Die Stimmenden waren von beiderlei Geschlechtern und von verschiedenen Berufen und waren über 37 der 48 vereinigten Staaten verteilt.

Im Durchschnitt waren mehr als ein Fünftel der Ansichten von jedem Stimmenden Ansichten der Ungewissheit, und noch ein Achtel stimmten nicht miteinander überein.

Mit einer wichtigen Ausnahme in jeder Partei waren die Behauptungen der Führer den Ansichten ihrer Wähler sehr ähnlich, sogar derart, dass sie Nebenunterschiede zwischen Stimmgruppen widerspiegeln. Zum Beispiel bestritten 68% der republikanischen Stimmenden die Arbeitslosenunterstützung, während nur 46% der Demokraten sie (ungefähr 25% waren ungewiss) ähnlicherweise bestritten. Das republikanische Parteiprogramm war entscheidend gegen eine solche Unterstützung, während das demokratische Parteiprogramm schwieg.

Die einzigen Haupterschiede zwischen den beiden Hauptparteien bezogen sich auf Alkoholverbot und Zoll.

Nach den Wahlen haben sich die Ansichten des erfolgreichen Kandidaten in mancher Beziehung verändert und können nur noch als vertretend angesehen werden, wenn die Ansichten der Stimmenden sich ähnlich verändert haben.

HAYES, JR.

THE PREDICTIVE ABILITY OF VOTERS*

From the Department of Psychology, Mt. Holyoke College

SAMUEL P. HAYES, JR.

Overheard during a Socialist campaign rally, in October, 1932: "Even Thomas himself doesn't expect to win *this* time!"

The present paper has to do with the expectations of the *voters*, during the two weeks prior to the 1932 presidential election, of the outcome of that election. It is part of a study from which two papers have already appeared (1, 4) and in which 8,419 questionnaires were filled out in October, 1932, in interviews with men and women of varied occupational and political status, scattered throughout 37 of the United States. Our main concern here has to do with the relation of the voters' expectations to certain other factors.

The questionnaire used included questions concerning each voter's sex, occupation, his vote in the 1928 presidential campaign, his vote in the 1932 campaign, and the man whom he expected to win the 1932 election. Tables 1 and 2 summarize the results of the last of these questions in relation to the other relevant factors. The voter's intended vote in 1932 was considered to be his normal political affiliation for the purpose of this study, and, consequently, where "Republicans" are spoken of, it will be understood that this refers to the 1932 vote alone.

Claude Robinson, in his study of political prediction (3), has presented some interesting facts concerning the predictive ability of politicians and newspaper men. While the lack of information as to the political convictions of the latter makes comparison of their predictions with those in the present study impossible, it is worth while considering the predictions of the former:

Most candidates for public office and political managers working for the same end believe mightily in the prospects of their success at the polls. To do so is to have heart for their labors, to inspire their followers and to win votes. The men who believe they are whipped are almost sure to be beaten, but the

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men who never say die sometimes turn the tide in their own favor. But this will to do, however necessary it may be to buoy up the spirit of political campaigners, inhibits celebration on the true status of the candidate and his party with the citizens who cast the votes. It opens the door to delusions of grandeur and power, and causes otherwise normal men to see great and sweeping victories where fate holds crushing defeat in store.

For 1928 the average Republican plurality error for 16 state predictions (by political leaders) is shown to have been 7 per cent, or 7 votes per 100 cast. . . . The Democratic plurality error for eight states averaged 18 per cent, showing that the losing politicians were the worse predictors. The forecasting error in 1928, as between winning and losing politicians, was distinctly bimodal, and this phenomenon is probably a feature of most political campaigns.

Given the will to win on both sides of a bipartisan political struggle, the party that does carry the day will almost invariably be shown to be better forecasters and, by the same token, the party that loses will be revealed as the worse predictors. The author is thoroughly of the opinion that if the records of pre-election measurements were available for the campaign of 1916, when Woodrow Wilson beat Charles E. Hughes for the presidency, the Democrats would stand first in predictive accuracy and the Republicans second.

So much for the predictions of political leaders. Whether their predictions were affected by their desire to win or by their propaganda value, they were noticeably biased towards their own cause. Republican political leaders in 1932 did not fail to carry out Robinson's thesis. They confidently predicted Hoover's re-election, and claimed that a last minute change of mind by voters all over the country made the straw polls invalid and inaccurate expressions of the true will of the people.

How did the voters themselves think the election would turn out? Their answers to the questionnaire in which they named the candidate they expected to win would have no propaganda value. The answers were presumably their own considered estimates of the situation, and nothing more.

But glance for a moment at Table 1. In every occupational group the Republicans expected their candidate to be re-elected! They

TABLE 1
EXPECTATION OF 1932 ELECTION RESULT*

Intended to vote for	Expected Hoover	Expected would win the election Roosevelt	No answer
Percentages			
Hoover			
Professional			
Men	55	41	4
Women	69	25	6
Semi-professional & managerial			
Men	60	35	4
Women	69	25	6
Clerical & skilled trades			
Men	74	24	2
Women	80	17	3
Farmers			
Men	73	22	5
Women	77	16	6
Factory workers			
Men	84	15	1
Women	79	14	7
Roosevelt			
Professional			
Men	3	96	1
Women	10	88	2
Semi-professional & managerial			
Men	4	94	2
Women	7	90	2
Clerical & skilled trades			
Men	5	93	2
Women	11	84	5
Farmers			
Men	4	93	2
Women	5	92	3
Factory workers			
Men	6	92	2
Women	10	85	5
Thomas			
Professional			
Men	16	82	1
Women	26	70	3
Semi-professional & managerial			
Men	15	81	2
Women	35	62	3
Clerical & skilled trades			
Men	26	68	2
Women	34	57	8
Farmers			
Men	(17)**	(78)	
Women	(38)	(50)	
Factory workers			
Men	(8)	(77)	(15)
Women	(30)	(52)	(7)

* Omitted from this table were 18 voters who expected another candidate than Hoover or Roosevelt to be elected. Most were probably practical jokers, although a certain number of cranks might reasonably be expected among such a large sample.

** The percentages enclosed in parentheses refer to groups in which there were less than 30 voters. Although they show much the same trends as the other groups, they are obviously not very reliable. The number of voters in each of the above groups is given on p. 268 of Robinson (4).

were not unanimous in the expectation, especially in the higher occupations, but there was no doubting their judgment. Were they taken in by the genuine, or simulated, confidence of their party leaders? Did their wishes "father their thoughts"? Were they so blind to the wide-spread indications of Democratic success that they were incapable of reading the signs of the times? Whatever the explanation, their predictions closely resembled those of their own political leaders.

The Democrats, whether on the basis of rational, unemotional judgment or on the basis of mere hope, almost unanimously expected their candidate to come out on top. That was correct prediction, of course, and bears out Claude Robinson's thesis that the winning party will always prove to have been the better at predicting the result. Probably there was more unanimity of opinion than the preelection prospects would have justified, but there could not possibly have been as much error as the Republicans manifested.

The Socialists, hardly able to hope that their candidate would make even a creditable showing, were presumably in the best position to guess the winner of the race dispassionately. Still, they did not nearly all judge correctly. Only around 70 per cent of the group expected Roosevelt to win, while about 25 per cent expected Hoover. Perhaps we can consider this as the most reasonable pre-election prediction, and the extent to which the major parties departed from it as a measure of the influence of their wish thinking. The Democrats, of course, come off better than the Republicans by this measurement also.

There were some other interesting differences between the groups in their predictive ability.

The women expected Hoover to win in proportions that were consistently larger than those of the men. In our sample the Republicans comprised somewhat larger proportions among the women than among the men, when all were considered together. Here, it appears that even *within* each party the women were surer that Hoover would win, whether because they wished it or because of some other reason. Thus, the Democratic women, for instance, regularly showed a greater proportion of expectation of a Republican victory than did the Democratic men. What can this mean? Did some of the women vote for Roosevelt and still *want* Hoover to win? That might easily

have been true in the South, where it isn't respectable to vote Republican. It is hard to think of any other reason, unless the women were simply more doubtful about the result (as they were about many of the issues of the campaign) and consequently, not being able to register doubtful judgments on this question, put part of them in the Hoover box. Still, this would not explain the greater Hoover expectation of the *Republican* women.

There was a noticeable tendency among the Republicans for the lower occupational groups to be even more expectant of Hoover's success than the upper. This is especially interesting when we remember that Roosevelt probably received more votes from the lower classes (4). It might be explained by assuming that the upper groups were more able to divorce their wishes from their expectations, or it might be due to a greater penetration of the upper groups by the more reliable indicators of the real outcome, such as the straw polls conducted by various agencies. It is hard to imagine a tired machinist sinking into an easy chair after dinner and reading avidly the latest *Literary Digest* returns. Certainly, the upper groups might have been expected to be especially critical of the blatant self-confidence of the leaders of both parties.

In this connection, it is interesting to note that the lower groups displayed, within each of the three parties, greater excesses of "yes" answers over "no" answers in their replies to the questions concerning the specific issues of the campaign (1). There was, in other words, a greater tendency among them to uncritical acceptance of any statement presented than among the higher groups. The size of this excess was greater in each occupational group than in the group above it, thus constituting a regular series in which, although individual group differences were rarely large enough to be statistically reliable, the trend was clearly present in each of the three parties. So here also we see evidence of the existence of a lesser degree of rational criticism among the lower occupations than among the higher. [It is hardly necessary to point to the several studies, such as that of Lawrence (2), which have demonstrated the relation between intelligence and occupational level.]

Does party regularity affect predictive ability? To answer this question we must further divide the groups of Table 1 with reference to 1928 vote, considering that "regularity" is sufficiently demon-

strated by loyalty in two elections. Its effect on predictive ability shows up clearly in Table 3 (summarized in Table 2).

TABLE 2
SUMMARY OF TABLE 3

Number of groups in which, when subdivided according to 1928 vote, the first of the subgroups showed a greater expectation of Hoover's election than the second.

	Comparisons* of 1928 Hoover voters with 1928 Smith voters	Comparisons* of 1928 Hoover voters with 1928 non-voters	Comparisons* of 1928 Smith voters with 1928 non-voters
Among voters intending to vote in 1932 for Hoover	7 groups 7 comparisons	8 groups 10 comparisons	1 group 7 comparisons
Among voters intending to vote in 1932 for Roosevelt	8 groups 10 comparisons	5 groups 10 comparisons	2 groups 10 comparisons
Among voters intending to vote in 1932 for Thomas	5 groups 6 comparisons	3 groups 6 comparisons	1 group 6 comparisons

* Where either subgroup contained less than ten individuals, the percentage based on it was not considered reliable enough to be used for comparison. Consequently, less than the ten theoretically possible comparisons (1 for each sex-occupational group) were made in this table.

"Regular" party members consistently showed greater proportions expecting their own candidate's victory than did voters who had changed to that party from any other. These differences were large enough to be statistically reliable only among the 1932 Hoover voters, but eight of the ten groups of 1932 Roosevelt voters showed similar differences.

Furthermore, regardless of present political affiliation, if a voter had previously supported one candidate or party, that action biased any future prediction of that candidate's or that party's victory. Among the 1932 Socialists, larger proportions of those who had voted for Hoover in 1928 than of those who had voted for Smith expected Hoover's election in 1932. Even though they no longer supported him with their votes, their past action and the feelings accompanying it still affected their thinking. Likewise, larger proportions of those

1928 vote for Hoover

1928 vote for Smith

No vote in 1928

Expected 1932 winner:	Hoover	Roosevelt	No Answer	Hoover	Roosevelt	No Answer	Hoover	Roosevelt	No Answer
Intended to vote for Hoover, 1932									
Professional									
Men	58	39	3	27	70	3	40	55	5
Women	70	24	6	38	58	4	70	26	4
Semi-professional and managerial									
Men	62	34	5	34	63	3	66	34	0
Women	70	24	6	63	32	5	60	34	6
Clerical and skilled trades									
Men	76	22	2	56	40	4	59	39	2
Women	81	16	3	39	44	17	78	20	2
Farmers									
Men	73	22	5	67	33	0	76	18	6
Women	80	13	6	(38)**	(50)	(0)	64	27	9
Factory workers									
Men	85	15	0	(100)	(0)	(0)	75	17	8
Women	84	14	4	(60)	(20)	(20)	59	24	8
Intended to vote for Roosevelt, 1932									
Professional									
Men	1	99	0	3	95	1	7	91	2
Women	11	88	1	8	88	4	11	89	0
Semi-professional and managerial									
Men	7	92	1	3	95	2	3	95	3
Women	10	87	3	8	90	1	2	95	2
Clerical and skilled trades									
Men	6	93	1	3	95	1	5	89	5
Women	11	82	6	10	85	4	14	81	5
Farmers									
Men	6	93	1	2	96	2	5	89	5
Women	10	90	0	3	95	2	0	88	12
Factory workers									
Men	10	90	0	6	92	2	0	95	5
Women	5	89	5	10	85	5	11	83	6
Intended to vote for Thomas, 1932									
Professional									
Men	24	75	2	8	92	0	13	84	0
Women	33	64	2	22	75	3	21	77	2
Semi-professional and managerial									
Men	12	88	0	15	69	8	(29)	(71)	(0)
Women	30	68	2	20	75	5	48	52	0
Clerical and skilled trades									
Men	28	61	6	(33)	(67)	(0)	(43)	(57)	(0)
Women	44	47	7	25	75	0	35	57	9

*Certain cases included in Table 1 were omitted from this table in order to make it less complicated. Also, they fell into the several categories in such small numbers as to make percentages based on them quite unreliable. They included 144 who voted for Thomas in 1928 and five who voted in that election for some other candidate than one of the three major ones. For the same reasons, the voters of the two lower occupational classes who voted for Thomas in 1932 were omitted.

**Parentheses inclose percentages based on groups containing ten or less members. Such percentages are obviously unreliable.

who had voted for Smith in 1928 than of those who had not then cast any vote expected Roosevelt's election in 1932. Once Democrats, they remained more Democratic than voters who were newly enfranchised. Similarly, both the 1932 Hoover voters and the Roosevelt voters showed larger proportions of the 1928 Smith voters expecting a Roosevelt victory than of the 1928 non-voters. Finally, the 1932 Republicans showed larger proportions of those who had voted for Hoover in 1928 than of those who had not voted then at all expecting a Republican victory in 1932.

Here is further evidence, then, that the expectations of voters are not merely reasoned judgments based on the best factual data obtainable, but that they are to a considerable extent due to other factors. The voters, obviously, were subject to some of the same factors that made the professional politicians over-confident. But the voters did not have to think of the effect of their predictions on other people. Whether a real case of wish-thinking, or merely a case of over-subjection to a strictly limited mass of data, such as propaganda always is, here we see a very real phenomenon of political life.

CONCLUSIONS

1. Large majorities of the voters of each party expected that party's candidate to be elected.
2. In 1932, women regardless of party more generally expected Hoover's election than did men.
3. Among the Republicans, more of the lower occupational classes expected Hoover's election than of the upper.
4. Once having voted for a candidate makes one's prediction of his subsequent success more likely, regardless of one's subsequent allegiance.

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LA CAPACITÉ DES VOTEURS À PRÉDIRE

(Résumé)

Dans le but de découvrir la relation entre l'action de voter pour un candidat et la croyance qu'il sera élu, on a demandé à 8419 voteurs peu de temps avant l'élection présidentielle de 1932 de dire le nom du candidat qui serait élu à leur avis ainsi que le nom de celui pour lequel ils avaient l'intention de voter.

Environ 75% des voteurs républicains croyaient que Hoover serait élu et environ 90% des voteurs démocrates croyaient que Roosevelt serait élu. Environ 70% des Socialistes, probablement moins prévenus que les autres deux groupes, croyaient que Roosevelt serait élu.

Sans égard du parti, plus de femmes que d'hommes croyaient que Hoover serait élu. Parmi les Républicains, plus des classes inférieures à l'égard du métier que les supérieures croyaient que Hoover serait élu.

Ayant voté une fois pour un parti, les voteurs ont été plus enclins à croire que ce parti serait victorieux après, sans égard de la fidélité subséquente du voteur lui-même. Par exemple, parmi ceux qui ont voté pour Thomas en 1932, une plus grande proportion de ceux qui avaient voté pour Hoover en 1928 que de ceux qui avaient voté pour Smith à cette époque, croyaient que Hoover serait élu en 1932.

HAYES, JR.

DIE VORHERSAGENDE FÄHIGKEIT DER STIMMENDEN

(Referat)

Um das Verhältnis zwischen dem Wählen eines Kandidaten und dem Glauben, dass er gewählt würde, zu entdecken, wurden 8419 Stimmende kurz vor den Präsidentenwahlen in 1932 gefragt, welcher Kandidat ihrer Ansicht nach gewählt würde, sowie für wen sie stimmen würden.

Etwa 75% der republikanischen Stimmenden haben erwartet, dass Hoover gewählt würde und ungefähr 90% der Demokraten haben erwartet, dass Roosevelt gewählt würde. Unter den Sozialisten, die vielleicht weniger voreingenommen waren als bei den anderen Gruppen, erwarteten ungefähr 70%, dass Roosevelt gewinnen würde.

Abgesehen von der Partei, haben mehr Frauen als Männer Hoovers Erfolg erwartet. Unter den Republikanern haben mehr Stimmende aus den niedrigen Berufsständen als aus der oberen erwartet, dass Hoover gewählt würde.

Nachdem die Stimmenden für irgendeine Partei gestimmt haben, war es wahrscheinlicher, dass sie die Erwartung des Erfolges dieser Partei hegten, ganz abgesehen von der nachherigen Anhängerschaft des Stimmenden. Z.B. unter denjenigen, die für Thomas in 1932 gestimmt haben, haben eine grössere Anzahl derjenigen, die für Hoover in 1928 gestimmt, Hoovers Erfolg in 1932 erwartet als diejenigen, die für Smith gestimmt haben.

HAYES, JR.

ATTITUDE TOWARD THE NEGRO OF NORTHERN AND SOUTHERN COLLEGE STUDENTS*

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University*

VERNER M. SIMS AND JAMES R. PATRICK

Along with the general problem of Negro-white relationships, differences in the attitude of Northerners and Southerners toward the Negro have long been a favorite subject for speculative attack and popular treatment, but a review of the literature reveals but few attempts to get quantitative evidence on the subject. Murphy and Murphy, commenting on the general problem in their *Experimental Social Psychology*, say, "The crying need for research on Negro-white antagonisms has as far as we have discovered, resulted, as yet, in very little exact research" (4, p. 639). Along with Katz and Allport (3), these authors give critical reviews of the literature up to 1931, and the writers were unable to find any studies published since this date bearing directly on the subject of geographical differences in attitudes. Even the evidence available is contradictory. Hunter (2), studying the differences between the attitudes of Columbia College and University of North Carolina students, as well as Northern and Southern adult groups, found the Northerners to have greater "good-will" toward the negro than had the Southerners. Katz and Allport, on the other hand, say that "On the whole a greater aversion was shown toward the Negro by Northern than by Southern students." The differences in findings may be due to differences in the samplings of Northerners and Southerners, or, and seemingly more probable, they may be due to differences in the methods used to measure attitude.

The possession of more refined methods of measurement should make possible a more satisfactory attack on the problem of geographical differences as well as other problems relating to the attitude of whites toward Negroes. An improved procedure seems to be available in the form of Hinckley's Attitude Toward the Negro Scale,

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one of the series of social attitude scales published by the University of Chicago Press and constructed by the method developed by Thurstone (8). The reliability of this type of instrument is at least a known or measurable quantity, and evidence of the validity of the general procedure is gradually accumulating, and is seemingly favorable (4, 6). Although the validity may not be assumed to have been established, there does seem slight doubt that it represents the most satisfactory effort to measure attitudes available today.

The present study is concerned with the use of Hinckley's scale in measuring the attitude toward the Negro of three groups of college students coming from different geographical regions, and with the bearing which certain vital and environmental factors may have upon any differences found. The three groups involved were: 156 students coming from Southern homes, chiefly Alabama and neighboring states, and enrolled in psychology classes at the University of Alabama (known here as the Southern students), 115 students coming from Northern homes, chiefly from the Northeastern states, and enrolled in psychology classes in the same institution (known here as North-in-South students), and 97 students from Northern homes, chiefly from Ohio and neighboring states, and enrolled in psychology classes at Ohio University (known here as Northern students). During the first two weeks of the fall term Hinckley's Attitude Toward the Negro, Scale No. 3, Forms A and B, and the Otis Self-Administering Test of Mental Ability, Advanced Examination, Form A, were administered to these three groups of students and at the same time information concerning sex, year in college, size of community from which they came, and father's occupation was obtained.

ATTITUDE TOWARD THE NEGRO

The average of the scores on Forms A and B of Hinckley's Scale was used as a measure of attitude toward the Negro. The reliability of this measure, found by correlating the two forms and stepping-up the coefficients thus found, was fairly satisfactory, at least for an investigation of group differences. The stepped-up coefficients were: .70 for the Northern group, .78 for the North-in-South group, .73 for the Southern group, and .78 for the three groups combined. The differences in reliability for the three groups have no significance, for, as will be seen later, the ranges of the

groups vary and the narrow ranges tend to attenuate the coefficients of correlation.

Frequency distributions of the scores made by the three groups are shown graphically in Figure 1, and Table 1 summarizes the statistical facts concerning the three distributions.

There is a decided difference between the average scores of the three groups, the Northern students being most favorable, with a

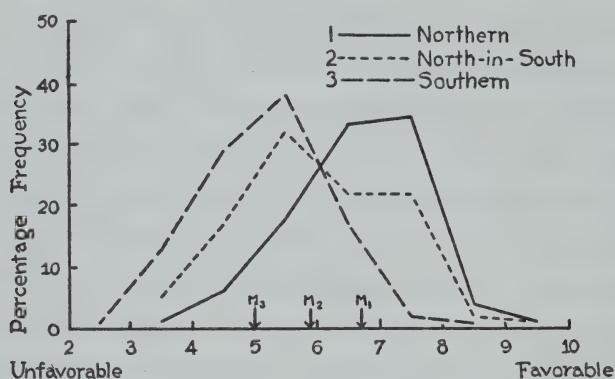


Figure 1
Distribution of Attitude Scores for
Three Populations

TABLE 1
SUMMARY OF STATISTICAL FACTS CONCERNING THE THREE DISTRIBUTIONS OF
ATTITUDES SCORES

	Northern	North-in-South	Southern	Northern— North-in-South	Northern— Southern	North-in-South— Southern
N	97	115	156			
M	6.7	5.9	5.0			
σ	1.0	1.3	1.0			
Difference between means				.8	1.7	.9
P.E. of D				.10	.08	.09
D/P.E.				8	21	10

mean score of 6.7, the North-in-South group being less favorable with a mean score of 5.9, and the Southern students least favorable with a mean of 5.0. Only 6 per cent of the Southern students reach the mean of the Northern group, while 21 per cent reach the mean of the North-in-South group, and 20 per cent of these students reach the mean of the Northern group. The differences found are statistically significant. The difference between the Northern students and the North-in-South students is eight times the probable error of the difference, that between the North-in-South and the Southern students is ten times the probable error, and that between the Northern and Southern students is 21 times the probable error. However, the individual differences within the groups are great and the overlapping of groups is considerable, particularly if you consider overlapping of individuals rather than means. The spread is greater in the North-in-South group (which, as will be shown later, probably indicates that their attitude is in a state of flux), but the Northern and Southern students spread out about the same. All of this would suggest the absence of a "stereotyped" attitude, using the term in the sense of a standardized form which the attitude takes among certain geographical groups.

There are, though, definite differences in the mean scores of the three populations, and to the extent that they may be considered random groups one would expect to find somewhat the same differences between similar groups. To what extent are they due to the fact that the students came from different sections of the country rather than to other selective factors? And, further, assuming a North and South difference, what is the explanation of the difference between the two groups of Northerners? A completely satisfactory answer to these questions could be obtained only by means of a partial correlation technique or by equating groups on all other factors. Neither of the procedures was possible here. There was, of course, no attempt made to equate the groups on other factors and the numbers are too small and the measures too varied to make partial correlations feasible. However, through an analysis of the sex, intelligence, year in college, size of community from which they came, and parental occupation of the three populations we have been able in some manner at least to answer the questions and at the same time throw light on the relation between attitude toward the Negro and the other factors.

ATTITUDE AND INTELLIGENCE

The mean scores and sigmas for the three groups on the Otis Self-Administering Test of Mental Ability were:

Northern Students	M=51.8	$\sigma=10.0$
North-in-South Students	M=51.1	$\sigma=9.6$
Southern Students	M=50.3	$\sigma=9.5$

The differences in intelligence are not statistically significant and are so slight that even though there were high positive relationships between attitude and intelligence this fact could not account for the differences in attitude found. Actually, there was but slight positive correlation between the two factors. The Pearson coefficient between Attitude score and Otis score for the Northern students was $.29 \pm .06$, for the North-in-South students $.13 \pm .05$, and for the Southern students $.11 \pm .05$. The relatively higher correlation found among the Northern students cannot be considered as statistically significant, yet it is suggestive. The emotional tone of the attitude for those groups that come in more or less intimate contact with the Negro and with the Southern environment may be sufficient to destroy a relationship that one would logically assume to exist between level of intelligence and favorableness in attitude toward another racial group.

SEX DIFFERENCES IN ATTITUDE

Table 2 summarizes the statistical facts concerning the two sexes for the three populations.

TABLE 2
SEX DIFFERENCES IN MEAN ATTITUDE SCORE FOR THE THREE POPULATIONS

	Male			Female			Difference	P.E. _{diff.}	Diff./P.E. _{diff.}
	N	M	σ	N	M	σ			
Northern	42	6.3	.8	55	6.8	1.0	.5	.12	4.2
North-in-South	104	5.7	1.1	15	6.3	1.0	.6	.20	3.0
Southern	81	4.8	1.0	82	5.2	1.0	.4	.10	4.0

It indicates that there is a slight but consistent sex difference in attitude toward the Negro, the women being more favorable than the men, the Northern women scoring .5 points higher than men, the North-in-South women scoring .6 points higher, and the Southern women .4 points higher. The differences can scarcely be called statistically significant ones, being but four times the probable error for the Northern and Southern groups and three times the probable error for the North-in-South group. However, the consistency with which they appear leads one to believe that such difference does actually exist. Unfortunately the disproportionate distribution of the two sexes in the three geographical groups prevented the combining of the groups in order to increase the numbers and thus reduce the probable error of the measurement.

The relatively large number of males in the North-in-South group is in part an explanation of the low scores made by this group, yet it is not entirely so, for when we consider the sexes separately, we find the same relative differences in attitude for the three geographical groups.

YEAR IN COLLEGE AND ATTITUDE

The year in college should be a rough index of the general maturity of the student, and as such is of interest within itself, but it is particularly interesting for the North-in-South group since it may be taken as a measure of the length of time that these students have been exposed to the Southern environment and to the Southern Negro, and should therefore tell us whether the North-in-South students score low due to their being negatively selected or due to contact with the Southern environment.

Table 3, summarizing the statistical facts concerning the three groups, shows that the representation from the various classes is

TABLE 3

RELATION BETWEEN YEAR IN COLLEGE AND MEAN ATTITUDE SCORE FOR THE THREE POPULATIONS

	Northern		North-in-South		Southern	
	N	M	N	M	N	M
Freshmen	42	6.4	59	6.2	57	5.0
Sophomores	23	6.7	29	5.8	56	4.9
Juniors and Seniors	31	6.8	25	5.2	44	5.0

roughly the same for the three groups, there being a slightly larger proportion of freshmen from the Northern and North-in-South groups. (The representation from the junior and senior classes was so small in all three groups that these years were combined.) It will be observed that for the Northern group the upperclassmen score was slightly higher than the freshmen, the difference not being a significant one, for the Southern group the scores of the three classes was about the same, but for the North-in-South group there was a consistent drop from year to year. The means for the first two groups are surprising, for they indicate no significant rise in favorableness with increased schooling, but the differences between the various classes in the North-in-South group are even more interesting. Although the data for calculating the probable errors of these differences are not presented in Table 3, we have calculated it for the difference between the Freshmen and Juniors-Seniors for the North-in-South group. The difference, 1.0, is approximately seven times the probable error; that is, these students come South as freshmen with an attitude which is practically the same as that of the Ohio students (it will be remembered that the North-in-South group had a very large percentage of males and the Ohio males scored an average of 6.3) but as time goes on their attitude approaches that of the typical Southern student, until in the Junior and Senior years there is not a significant difference between the two groups. This, incidentally, is the explanation of the relatively greater spread noted in Table 1 for the North-in-South group.

As to whether this change in attitude comes as a result of contact with the negro or from contact with the Southern student we have no evidence. It probably is to some extent, anyway, simply a case of "susceptibility to majority influence." On the other hand, it possibly represents in part an adoption of the Southern *mores*, an absorption of the Southern attitude. At any rate it lends but scant support to Diggins' thesis that "contact insures friendliness" in the case of Negro-white relations (1).

ATTITUDE AND SIZE OF HOME COMMUNITY

The communities from which the students came were classified according to size as follows: farm or village (less than five thousand

population), small town (5000 to 25,000 population), small city (25,000 to 250,000), and large city (above 250,000). The numbers coming from each size community and the mean attitude score made are given for each of the three populations in Table 4.

TABLE 4

RELATION BETWEEN SIZE OF COMMUNITY FROM WHICH STUDENTS CAME AND MEAN ATTITUDE SCORE FOR THE THREE POPULATIONS

Size of community	Northern		North-in-South		Southern	
	N	M	N	M	N	M
Less than 5000	16	7.0	8	5.8	35	5.0
5000 to 25,000	27	6.3	18	5.9	65	5.2
25,000 to 250,000	37	6.5	38	5.8	31	5.2
250,000 plus	16	7.1	51	5.9	27	5.1

It will be seen that the larger percentage of the Southern students comes from communities of less than 25,000 population, the Northern students come chiefly from larger towns and smaller cities, while the North-in-South students mostly come from large cities. Examination of the mean score for the various groups shows that there is no consistent relationship between size of community and attitude toward the Negro. In fact, when the small numbers are considered, the groups are surprisingly consistent. In no case is there a statistically significant difference, and there is no overlapping of means. That is, no North-in-South group made an average score as high as the lowest Northern group and no Southern group made an average score as high as the lowest North-in-South group.

PARENTAL OCCUPATION AND ATTITUDE

It is very difficult to classify occupations along any sort of quantitative scale so that they indicate increasing cultural and social levels,¹ but we have made three such attempts and because of the consistency of the findings the conclusion seems to be fairly dependable. First, the occupations reported were classified by means of a modified Taussig scale, which one of the writers had prepared in connection with an attempt to measure Socio-Economic status (5), as follows:

¹This is particularly true when the only information available is the name of the occupation. If the writers were repeating the study, they would certainly get more complete information concerning the nature of the occupation.

Group I.	Professional men, proprietors of large businesses, and higher executives.
Group II.	Commercial service, clerical service, large land owners, managerial service, and business proprietors.
Group III.	Artisan proprietors, petty officials, skilled laborers with some managerial responsibility, small shop owners and business proprietors.
Group IV.	Skilled laborers who work for someone else, building trades, transportation trades, manufacturing trades involving skilled labor, personal service. Small shop owners doing their own work.
Group V.	Unskilled laborers, common laborers, helpers, "hands," peddlers, varied employment, venders, unemployed (unless it represents the leisured class or retired).

The means for the various groups were then calculated and are presented in Table 5. Group V was so poorly represented in all three populations that it is combined with Group IV.

TABLE 5
RELATION BETWEEN OCCUPATIONAL STATUS AND MEAN ATTITUDE SCORE FOR
THREE POPULATIONS

Occupational class	Northern		North-in-South		Southern	
	N	M	N	M	N	M
I	9	6.6	10	5.7	34	5.5
II	21	6.5	23	6.1	31	4.8
III	24	6.5	45	5.8	55	5.5
IV & V	33	6.8	24	6.3	22	5.5

It will be noticed that the occupational groups represented are more or less the same in the three populations. More Southern students come from Group I and more Northern students come from Group IV-V; otherwise, there are no appreciable differences. In other words, the indications are that the students come from approximately the same economic and cultural levels, which at once suggests that the difference in attitude between the geographical groups is not due to differences in the social levels from which the students come. An examination of the mean attitude scores for the various occupational groups leads to the same conclusion. The differences in every case are slight and no consistent trends are observed. The most

favorable scores among the Southern students were made by those students having parents who are members of the professions, but in the North-in-South group the sons and daughters of professional men made the lowest score and in the Northern group the "labor" group made the highest score.

The smallness of these differences may be due to the crudity of the method of occupational classification used. Another attempt to answer the same question was made by scoring the reported parental occupations by means of the Barr Scale of Occupational Status (7, pp. 542-545) and then correlating occupational status and attitude for the three groups. The correlation for the Northern group was $.14 \pm .06$, for the North-in-South group it was $-.02 \pm .07$, and for the Southern group $-.13 \pm .05$. The probable errors of the coefficients are so great that the coefficients can only be interpreted as indicating no relation between attitude and occupational level; although it is interesting, if perhaps accidental, that again the Northern group does show some positive relationship, which is what one would expect if there be a positive relation between attitude and intelligence.

The final attack was made by selecting out those occupations which appeared relatively often and were definitely classifiable, and comparing the means of these groups. The occupational groups represented by ten or more cases in two or more of the three populations were: professional men (doctors, lawyers, and ministers), merchants, salesmen, farmers, and skilled laborers. Table 6 presents the number of cases found and the mean scores made by these occupational classes for the three geographical groups.

TABLE 6
MEAN ATTITUDE SCORES OF SELECTED OCCUPATIONAL GROUPS FOR THE THREE POPULATIONS

Occupations	Northern		North-in-South		Southern	
	N	M	N	M	N	M
Professional men	11	6.7	10	5.9	33	5.0
Merchants	—	—	16	5.8	18	5.2
Salesmen	11*	6.5	12	5.8	15	4.9
Farmers	13	7.1	—	—	13	5.1
Skilled laborers	19	6.4	24	5.9	14	5.0

*Merchants and Salesmen.

Again the indications are that there is no relation between occupation and attitude. The differences between the means are all slight, and where there are differences they are contrary to what one would expect if there were any relationship. In the Northern group the sons and daughters of farmers made the highest score, and in the Southern group the merchant class made the highest score, while in the North-in-South group there was only .1 point difference between the highest and lowest mean score. The numbers are too small to be statistically meaningful, anyway; but the summation of evidence from the three analyses is rather convincing, and it does not support the common contention that economic friction leads to the racial antagonisms. The explanation may be that our students represent a highly selected occupational group, hence economic competition with the Negro may be of no consequence or actually non-existent.

SUMMARY

If we confine ourselves to the groups studied we may summarize as follows:

1. There are significant and true differences in the attitude toward the Negro of the three groups, students from Northern homes studying in the North being most favorable, students from Northern homes studying in the South being not so favorable, and students from Southern homes studying in the South being least favorable.

2. There is a slight positive relation between intelligence and attitude in all three groups, this relationship seemingly being highest for the Northern students studying in the North.

3. There is a consistent sex difference in the three groups, the women being slightly more favorable than men.

4. In the Northern group and in the Southern group upperclassmen are equally favorable or slightly more favorable in attitude than are freshmen, but among the Northern students studying in the South the upperclassmen are definitely less favorable than are the freshmen who have just recently come South.

5. No relation between size of community and attitude was found in any geographical group.

6. But slight if any relationship was found between occupation of the father and attitude.

Recognizing the limited nature of the study the writers hesitate

to draw any general conclusions concerning the nature of differences in the attitude of college students toward the Negro. However, the study does suggest that Northern college students are on the average definitely more favorable toward the Negro than are Southern college students; but there are great individual differences within the groups and consequently overlapping between them. As to the causes of these differences our conclusions are only negative. They do not seem to be satisfactorily accounted for by intelligence, sex, degree of maturity, size of home community, or occupational level. Finally, when Northern students are transplanted into the Southern environment their attitude seems to change, gradually becoming more nearly that of the Southern students. Whether this change is the result of contact with the Negro or with the general Southern atmosphere cannot be said.

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L'ATTITUDE DES ÉTUDIANTS UNIVERSITAIRES DU NORD ET DU SUD À L'ÉGARD DU NÈGRE

(Résumé)

Dans le but de faire comprendre un peu plus le problème des différences de l'attitude des blancs à l'égard du nègre, on a fait subir l'*Attitude à l'égard du Nègre*, Echelle No. 3, Formes A et B, de Hickey, à trois groupes d'étudiants universitaires; 156 étudiants de familles du sud, inscrits à une université du sud (Alabama), 115 étudiants de familles du nord mais inscrits à la même université du sud, et 97 étudiants de familles du nord inscrits à une université du nord (Ohio). En même temps on a obtenu des renseignements sur l'intelligence, le sexe, l'année du cours universitaire, la grandeur de la ville où ils demeuraient, et l'occupation des parents. D'après l'analyse de ces données les conclusions suivantes semblent justifiées: Les étudiants du nord ont eu une attitude définitivement plus favorable à l'égard du nègre que celle des étudiants du sud, mais l'attitude des étudiants du nord qui suivaient les cours à l'université du sud est devenue peu à peu pareille à celle des étudiants du sud. L'attitude à l'égard du nègre n'a montré aucune relation signifiante avec l'intelligence, l'occupation des parents, ou la grandeur de la ville natale, mais il s'est montré une différence de sexe, petite mais constante, les femmes étant plus favorables que les hommes.

SIMS ET PATRICK

DIE ANSICHT ÜBER DEN NEGER BEI DEN NORD- UND SÜDUNIVERSITÄTSSTUDENTEN

(Referat)

Beim Versuch, weitere Klarheit über das Problem der Unterschiede in Ansichten bei den Weissen über den Neger zu verschaffen, wurde Hinckleys *Ansicht über den Neger*, Skala 3, Formen A und B, drei Gruppen von Universitätsstudenten gegeben: 156 Studenten aus dem Süden, die auf einer Süduniversität (Alabama) immatrikuliert waren, 115 Studenten aus dem Norden, aber auf derselben Universität immatrikuliert, und 97 Studenten aus dem Norden, die auf einer Norduniversität (Ohio) immatrikuliert waren. Zur selben Zeit wurde Auskunft über Intelligenz, Geschlecht, Semesterbesuch, Grösse der Heimatsstadt, und Elternberuf erhalten. Durch eine Analyse dieser Daten sind die folgenden Schlüsse bestätigt: die Norduniversitätsstudenten waren entscheidend günstiger gegen den Neger gestimmt als die Südstudenten, aber die Ansichten dieser Nordstudenten, die die Süduniversität besuchten, näherten sich allmählich fast denen der Südstudenten. Die Ansicht über den Neger, wie es sich herausgestellt hat, bezog sich nicht auf Intelligenz, Elternberuf oder Grösse der Heimatsstadt, aber es gab einen geringen, aber beständigen Geschlechtsunterschied, indem die Frauen günstiger gestimmt waren als die Männer.

SIMS UND PATRICK

A STUDY OF SOME OF THE FACTORS UNDERLYING THE ESTABLISHMENT OF SUCCESSFUL SOCIAL CONTACTS AT THE COL- LEGE STUDENT LEVEL*

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An investigation was undertaken to determine the factors underlying the establishment of *successful* social contacts. Three major factors seem to be of influence: (1) an interest in such contacts and a desire to initiate and maintain them, (2) an environment facilitating them, and (3) possession of specific techniques for establishing them. The influence of interest is one the source of which lies within the personality; the influence of both the environmental factors and specific techniques have their sources outside the personality. While the method of psychoanalysis seems to be necessary when working with the factor of interest, an external approach to the problem of social maladjustment can be made through the other two influences—environmental factors and specific techniques. Emphasis in this research is placed on these two.

In studying the matter, the following questions were raised: (1) What was the status of students' social relationships in two of the college residence halls; (2) What seemed to be some of the environmental factors facilitating the establishment of social contacts; and (3) Which students adjusted easily in a social situation? What were the outstanding characteristics which appeared useful in the formulation of specific techniques for social adjustment?

Determination of the extent of social relationships in an average college group, a random sample of college students living in the usual college dormitory, was first undertaken. Study of the extent of social relationships in another "equivalent" college group, where the "average college environment" was complicated by one additional environmental factor, might show, when compared with the results

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obtained in the first case, the effect of the one atypical environmental factor on the social contacts made. Determination of some other factors—not environmental—which might be used in the formulation of specific techniques for social adjustment was the second major problem undertaken.

SUBJECTS

The subjects used for the study were 56 college students of the three upper classes, composed of two groups of 28 members each. Each group lived in a different dormitory. The members of each group lived close to each other, forming geographically a compact unit. The only obvious difference between the groups was the fact that one, Group A, undertook the running of their dormitory from the housekeeping end—cleaning, menu-planning, ordering, cooking, and serving of food—as well as from the social end, living together harmoniously with a minimum of friction which latter fact was common also to the other group, B. Further facts concerning the two groups were considered “positive data” (Tables 1-6) for the establishment of the equivalence of the two groups and appears below.

DATA

Two interviews were held with each of the 56 subjects; one, early in October 1933; the other, in the middle of February 1934. At the first interview, the subject filled out Questionnaire I, furnishing:

1. Information on the status of acquaintanceship within the group during the preceding Spring 1933, to determine the “handicap” with which the group started the new academic year, September 1933,
2. information on the status of acquaintanceship within the group in October 1933, two weeks after college opened, and
3. information on the amount of time spent in October 1933 with the others in her group and specifically with whom. Questionnaire II, filled out at the second interview, gave comparative ratings to items (2) and (3) above—the status of acquaintanceship and the status of prolonged social relationships among the 28—after four and one-half months of living together. At this time, ratings by each subject were given to some factors assumed to be

basic in determining friendships. Each subject noted also some of the more immediate factors in the establishment of her special friendships at college.

Study of the Thurstone Personality Schedule and the Personnel Research Bureau Inventory offered information about home background, emotional stability, cultural, recreational, athletic, and academic interests which was charted for each subject.

A third source of information was observation. A rating scale for a study of social approaches was formulated by the author on which the observational data for Group A were charted. Sufficient observation of Group B had not taken place to warrant use of such observational notes as were on hand in this part of the study.

Statistical treatment of data not always originally in a numerical state was made possible by assigning a numerical index to such data, which will be explained in each instance during the discussion. Comparisons between the groups were made on the basis of the group averages, reliability of the difference being tested by the standard formulae for the reliability of a difference found in Garretts *Statistics in Psychology and Education* where D/σ_{diff} should be greater than three to prove a reliable difference.

DATA AND RESULTS

1. *Establishment of the Equivalence of Groups A and B.* The first section of the results deals with the establishment of the equivalence of Groups A and B. Group B resembled Group A in that both groups formed a compact geographic unit and included no freshmen. The only obvious *difference* between the groups was the fact that A was engaged in a cooperative enterprise which was not the case with B. Study of the less obvious personality characteristics within each group as a whole was now undertaken. Those items in the personality patterns considered of major influence on social behavior were arbitrarily selected by the author and information on these items obtained from the Thurstone Personality Schedules and Personnel Research Bureau Inventories. On the basis of group averages found, comparisons between Groups A and B for the less obvious personality characteristics were made.

Analysis of significant items of home background (Table 1) showed the two groups to be equivalent in this respect. Even the

TABLE 1

ITEMS OF HOME BACKGROUND ASSUMED TO INFLUENCE THE ESTABLISHING OF SOCIAL CONTACTS

Item	Group A	Group B
1. Years at college	3.07	2.46
2. Age at entrance	17-9.3*	17-10.8
3. Index—home residence	2.00	2.25
4. Index—father's occupation	2.25	2.07
5. Index—father's educational background	1.93	1.61
6. Index—mother's educational background	1.39	0.86
7. Index—home cultural background	5.57	4.54
8. Number of siblings	2.86	2.82
9. Ordinal position in family	1.68	1.89
10. Index—travel background	0.82	0.89
11. Index—school background	1.79	2.11
12. Index—positions of responsibility held	1.57	1.64

*17-9.3 signifies 17 years, 9.3 months.

two noticeable differences shown—Group A had a more cultured home background, Group B had a more select school background—were found to be statistically insignificant.

Emotional maturity indices, based on the letter ratings from A to E on the Thurstone Personality Schedule, were 3.14 and 3.22 for Groups A and B respectively. Close study of the 223 questions on the Schedule showed that there were 92 questions, of special significance for the problems undertaken, which could be grouped into nine sets leading to various lines of emotional adjustment. This

TABLE 2

ITEMS OF EMOTIONAL BACKGROUND ASSUMED TO INFLUENCE THE ESTABLISHING OF SOCIAL CONTACTS

Groups of related questions	Max. score	Group A	Group B
1. Interest in social gatherings	13	9.1	9.1
2. Interest in social gatherings (negative approach)	9	5.6	5.8
3. General attitude towards people	13	10.2	10.7
4. Self-confidence with others	6	3.5	4.4
5. General emotional stability	9	5.4	5.5
6. Hypersensitivity	5	3.9	3.6
7. Physical well-being	6	5.4	5.1
8. Early adolescence	5	4.2	4.2
9. Miscellaneous items	26	16.2	15.7
Total score for significant questions number answered favorably	92	43.75	44.15

procedure permitted a detailed qualitative analysis of the inventory and more accurate comparison of the Groups A and B than could be made by the use of the letter rating alone. Table 2, listing averages for the sets of questions, gives further proof of the equivalence of A and B.

Details of activity, recreational, reading, and academic interests, methods of work, aims and ambitions, intelligence and health ratings were also studied. Table 3 lists only those activities of the 60

TABLE 3
ACTIVITY INTERESTS

	Group A	Group B
Outdoors with people	Swimming	Swimming
	Tennis	Tennis
	Basketball	Auto driving
	Hiking	Basketball
	Skating	Bicycling
	Bicycling	Horseback riding
	Auto driving	Skating
	Paddling	Paddling
	Hockey	Hiking
	Rowing	Hockey
	Horseback riding	Rowing
Indoors with people	Dancing	Dancing
	Acting	Acting
	Cards	Cards
Indoors alone	Cooking	Cooking
	Singing	Piano

appearing on the Personnel Research Bureau Inventory which were checked with an "L" signifying "liked" by at least 14 of the 28 in each of the Groups A and B. These were further arranged according to the total number of "L's" each received, the one receiving the most appearing at the top.

Similar treatment was accorded the 37 recreational interests found on the Inventory (Table 4). The 13 types of preferred reading listed by Group A paralleled closely those preferred by Group B (Table 5). Table 6 lists in order of preference the academic subjects marked as liked by the majority in each group.

Analysis of the data on preferred working conditions, aims and ambitions, and ends desired showed continued similarity between the two groups. Of the 15 pairs of items, permitting choice of

TABLE 4
RECREATIONAL INTERESTS

	Group A	Group B
Serious interests	Drama Concerts Art exhibit	Drama Concerts Lectures
Lighter interests	Musical comedy Movies Radio Picnics Athletic exhibitions	Radio Musical comedy Movies Picnics Athletic exhibitions
Other interests	Pets	Pets

TABLE 5
READING INTERESTS

	Group A	Group B
Fiction	Novel Poetry Drama Short story Essay	Novel Poetry Drama Short story Essay
Non-fiction	Biography Travel Book review Current events Editorials	Biography Book reviews Current events History Travel
Miscellaneous light reading	Fashions Advertisements Humor and comics	Editorials Humor and comics Sporting events Fashion notes Society notes Advertisements

TABLE 6
ACADEMIC INTERESTS

Group A	Group B
English literature	English literature
History	Algebra
French	History
English composition	English composition
Algebra	French
Geometry	Latin
Latin	Geometry

two opposite extremes of preferred working conditions—e.g., mental vs. manual work, organizing vs. following—the group tendency of A and of B was identical in each case. The three of the 11 listed “aims and ambitions” and the five of the 10 listed “ends desired,” checked by a majority in each group, were the same in each instance. Indices for preparation for college were 3.5 and 3.4 for Groups A and B respectively.

The mean Scholastic Aptitude Test percentile for both A and B was the 53rd. The mean entrance quartile ratings were 2.78 and 2.58 for A and B respectively. Health indices for A and B were 2.30 and 2.00.

To conclude: With regard to the less obvious personality characteristics, e.g., home background, emotional background, diverse interests, methods of work, aims and ambitions, intelligence and health ratings, the equivalence of the two groups seems to be established. No statistically significant differences were found.

2. *Study of Some Environmental Factors Underlying the Establishment of Social Contacts.* Except for the one fact that Group A was engaged in a cooperative undertaking such as was not undertaken by Group B, the two groups were found to be equivalent with respect to the more obvious and less obvious personality characteristics. Consideration may now be given to the social adjustment within each group—the increase in acquaintanceship and the extent of the more prolonged social relationships.

It was necessary first to determine the “handicap” of each group, i.e., the extent of acquaintanceship before this study was undertaken. Indices for each subject’s extent of acquaintanceship during the preceding Spring 1933 were determined in the following manner. The ratings given by each subject in Questionnaire I for her state of acquaintanceship with each of the 28 members of her group, “knew her very well,” “—well,” “—fairly well,” “—by sight,” and “—not even by sight” were assigned numerical scores of 4, 3, 2, 1, and 0 respectively. In each case the subject rated herself as “known very well.” These ratings, summed for each subject, became her index for extent of acquaintanceship in the group in which she was living before the 1933-1934 academic year began. The indices were averaged for the 28 in each group and found to be 28.0 for Group A and 29.6 for Group B. Since the possible range was from 0 to

112, these scores were remarkably close. No special treatment of the data because of "handicap" score was necessary. Discussion of the actual increase in acquaintanceship was taken up directly.

a. Increase in acquaintanceship.

1) *Quantitative analysis.* Information about the increase in acquaintanceship after two weeks of living closely together was gathered from data on Questionnaire I, where each subject checked her state of acquaintanceship with each of the 28 in her group—"not even by sight," "by sight," "speak to rarely," "speak to occasionally," and "speak to frequently." Numerical ratings of 0, 1, 2, 3, and 4 were assigned to the above states of acquaintanceship. In each case the subject rated herself as "speak to frequently." For each subject the difference was found between her rating in October 1933 and her corresponding rating for the preceding Spring for each of the 28 in her group. For example if *XY* "speaks frequently" to *PQ* now (rated 4) and if she knew her only "by sight" last Spring (rated 1), *XY*'s increase in acquaintanceship with respect to *PQ* would be 3. If she knew *RS* "very well" last Spring (rated 4) and "speaks frequently" to her in October 1933, (rated 4), her increase with respect to *RS* would be 0. These 28 increases were summed for each subject and became her index. Average indices were then obtained for Groups A and B. The results showed an average increase in acquaintanceship in Group A after two weeks' association of 56.6 while the average increase for Group B was 28.8, only half as much. Group A, it will be recalled, was shown to be equivalent to Group B in all but one major respect; a cooperative enterprise was undertaken only by Group A.

After four and one-half months, the scores on increase in acquaintanceship (data furnished by Questionnaire II) for Groups A and B were 64.9 and 45.5 respectively. Group B, not even after four and one-half months, reached the high level of interest and association with its neighbors which Group A attained after two weeks and maintained through the four and one-half months.

If in the usual dormitory arrangement, Group B, scores for increase in acquaintanceship were 28.8 after two weeks and 45.5 after four and one-half months, then Group A's scores of 56.6 after two weeks and 64.9 after four and one-half months were unusually high.

2) *Qualitative analysis.* A more intensive analysis of these data corroborated the results found above of a wider extent of acquaintanceship within Group A than found within Group B. The average number of people per subject scored as known "not even by sight" (rated 0) last Spring and given the same rating in October 1933 was 0.32 for Group A; 6.57 for Group B. That is, the average Group B member had made no social advances nor had she been socially approached by almost 25 per cent of her group; Group A's score showed that almost everybody knew everyone else. The average number of people per subject falling under the following two categories: (a) "known not even by sight" (rated 0) last Spring and "known only by sight" (rated 1) in October 1933 and (b) "known only by sight" (rated 1) last Spring and still "known only by sight" (rated 1) in October 1933, were added to the average number per subject falling under category rating 0-0. Group A's score (total instances under 0-0, 0-1, 1-1) showed an average of 1.39 persons relatively unknown, i.e., acquaintanceship had spread 95 per cent throughout the group in two weeks. Group B's rating showed an average of 9.46 persons relatively unknown, a 66 per cent spread of acquaintanceship throughout the group in two weeks. After four and one-half months, the rating of 95 per cent was raised to 100 per cent in Group A; the 66 per cent rating for Group B was raised to 86 per cent, still under the rating attained by Group A after only two weeks.

A study of the number of people per subject with whom she "spoke frequently," showing a high degree of acquaintanceship, after four and one-half months of living together, gave the following facts: that Group A knew very well 15.8 of her immediate neighbors (56.4 per cent of the group); Group B, 10.5 (37.5 per cent).

b. Prolonged social relationships.

1) *Quantitative analysis.* The second sub-problem dealt with the interest in spending prolonged periods of time socially with one's neighbors. Each subject checked the state of her prolonged social relationships with each of the 28 in her group—"spends time frequently," "—occasionally," "—rarely," "—never" after two weeks (Questionnaire I) and again after four and one-half months (Questionnaire II). In the statistical treatment of these data, weightings

of 5, 3, 1, and 0 were assigned the ratings "frequently," "occasionally," "rarely," and "never" respectively. In each case the subject rated herself as "frequently." The sum of these weighted ratings was obtained for each subject. To this sum was added the number of "f's," "o's," "r's," and "n's," scored for her by each of her 27 neighbors (weighted as above). The sum of these two, divided by two, became her score. On the basis of these scores, averages for each group were obtained. After two weeks, average scores for prolonged social relationships for A and B were 46.6 and 34.8 respectively.

After four and one-half months, both groups showed increased scores. The score of Group A was again much higher than B's—84.2 as against 61.0. Since the total possible score if everyone had had frequent social contacts with each of her neighbors was 140, Group A's score earned an achievement rating of 61 per cent; Group B's, 44 per cent.

2) *Qualitative analysis.* Qualitative analysis of these data corroborated the facts shown above, namely, Group A's higher score. Analysis of the number of "f's" and the number of "n's" per subject showed that, after two weeks, the average Group A subject had social engagements frequently with five of the 28 members of her group; the average Group B subject, with four. That is, in both cases, about 15 per cent of the group were considered intimate friends. By February, Group A listed ten people as an average number with whom each subject had frequent social engagements—36 per cent. Group B's average had increased only by three, making it seven after four and one-half months of living together—25 per cent. Even more significant were the average number with whom a subject had no social engagements. In the Fall, this number for Group A was 13 and by Spring had been reduced to two. Analogous data for Group B showed that the number had been 17 in the Fall and that it was 10 in the Spring.

c. *Related questions.* Analysis was made of the basic factors and of the more immediate factors underlying the formation of friendships at college (Questionnaire II). The subjects rated on a 4-3-2-1-0 scale the importance of 41 items considered basic to the formation of friendships. The sum of the 28 ratings by each group for the item became its score.

TABLE 7

FACTORS ASSUMED TO BE BASIC IN THE FORMATION OF FRIENDSHIPS

Group A	Group B
A. Factors considered most important.	
Is generous-considerate.	Is tolerant of other's opinions.
Is tolerant of other's opinions.	Is generous-considerate.
Lends a hand willingly.	Has a keen sense of humor—is witty.
Has similar recreational interests.	Lends a hand willingly.
Has similar cultural interests.	Speaks readily and interestingly on many topics of conversation.
Speaks readily and interestingly on many topics of conversation.	Has similar recreational interests.
Has keen sense of humor—is witty.	Meets people easily.
Has similar extra-curricular activities.	Has similar cultural interests.
Meets people easily.	Is a good listener.
Is a good listener.	Loosens up easily—is carefree.
B. Factors considered least important.	
Resembles you in height and weight.	Resembles you in height and weight.
Has attractive brothers.	Spends much time in library.
Spends much time in library.	Is much concerned with week-ends.
Goes to movies frequently.	Has attractive brothers.
Spends much time eating off-campus.	Spends much time eating off-campus.
Has good clothes.	Has good clothes.
Is up on the latest in fiction.	Likes to lead.
Is much concerned with week-ends.	Goes to movies frequently.
Dances well.	Is a high-brow.
Spends much time in the smoking room.	Is very serious about her work.
Has traveled much.	Dances well.
Plays bridge well.	Plays bridge well.
Likes to lead.	Has traveled much.
Is a high-brow.	Is up on the latest in fiction.
C. More immediate factors in friendship.	
Rooming near each other.	Rooming near each other.
Having common friends.	Having common friends.
Going in for same extra-curricular activities.	Being in same classes.
Being in the same classes.	Knowing each other before coming to college.

Table 7 shows the 10 of the 41 items considered by each group most important and are listed in order of importance (basis being the score for the item; those scoring highest, placed first). The 14 items considered least important are listed in Part B of the table, the order used here placing the least important ones first.

Part C lists in order of importance the subjects' estimation of the more immediate factors underlying the formation of their friendships here at college.

d. Summary and conclusions. This part of the study dealt with the social relationships within two groups of college students. Each group, A and B, formed a geographic unit of 28 students and included no freshmen. Investigation of the *less obvious* personality characteristics—home background, emotional stability, diverse interests, methods of work, intelligence, health—showed continued equivalence between the two groups in average personality pattern. There was only one difference to be noted. Group A was engaged in a special cooperative enterprise, not undertaken by B, the running of their dormitory from the housekeeping end as well as from the social end. What were the social relationships found within each group? Since the two groups were shown to be equivalent except for the one factor mentioned above, one group served as a control in evaluating the effect of this environmental factor—a cooperative undertaking—on the establishment of social contacts.

It was found that: (1) in the usual dormitory group, represented by Group B, there was a tendency for a student to know fairly well or intimately only 37.5 per cent of her immediate neighbors, i.e., to know hardly at all 62.5 per cent of them. This limited range is striking in view of the fact that the factor of rooming near one another was considered the most important factor underlying the formation of friendships.

2) In the usual dormitory group, there was a tendency for a student to have prolonged social relationships with only 25 per cent of her immediate neighbors and to have no prolonged social engagements with 36 per cent.

3) The results for Group A, similar in total personality pattern to Group B, except for one environmental factor, showed a much higher level of social adjustment, a more wide-spread acquaintanceship among the members of the group (56.4 per cent as against 37.5 per cent above), and a more mature development with regard to prolonged social contacts, showing a desire and ability to participate in social activities with most of one's immediate neighbors even though at the same time there were definite preferences for more intimate friendships with a few. Group A showed no prolonged social relationships with only 7 per cent (Group B, 36 per cent).

There was one difference between the two groups—a cooperative enterprise undertaken only by Group A. There were found differences in the existing social relationships within each group. Might not this difference be attributed primarily to the one factor of difference between the groups? Might not one attribute Group A's richer social adjustment to the cooperative enterprise involving important techniques such as cooperative or parallel activity on the part of its 28 members? Conversely, it might be stated that cooperative and parallel activity seemed to be two of the environmental factors which stimulated and facilitated the establishment of satisfactory and successful social contacts; which paved the way and afforded opportunity for the development of more intimate friendships.¹

Interest in extending social relationships which, in the usual college environment, seemed to be fairly low could, on the basis of the data, be stimulated by external means—by arranging the environment to include the factor of parallel or cooperative activity. Two groups with equivalent personality patterns did not show equivalent intra-group social relationships because one of these had the additional factor of parallel or cooperative activity at work in its personality pattern. The environmental factor of being thrown together constantly, although affording an opportunity to develop social contacts, did not stimulate as many social contacts as did the environmental factor of opportunity to engage in parallel or cooperative activity.

3. *Study for Some Specific Techniques Underlying the Establishment of Successful Social Contacts.* For the second problem—specific techniques for social adjustment—answers to the following questions were sought. Which students adjusted easily in a social situation? What were their outstanding characteristics, possibly useful in the formulation of specific techniques for social adjustment? This part of the study was undertaken only with Group A since close and constant association during the year was not possible with Group B.

Sociability indices were obtained for each subject in the following manner. The extent of acquaintanceship within her group after four and one-half months was determined by adding to her

¹It is interesting to note that this factor of parallel or cooperative activity as a technique for successful social adjustment appeared also in the comparative study of social relationships at the preschool level.

individual score for increase in acquaintanceship her "handicap" score as of last Spring. To this was added her score for the extent of prolonged social relationships after four and one-half months to give the total sociability index.

The group of seven (of the 28) having the highest sociability indices, i.e., the first quartile, Group A1, was studied intensively. Group A1, chosen for its high sociability indices, averaged 207.0; the average sociability index for Group A, 178.1.

a. *Less obvious personality characteristics.* Comparisons were made of the averages for Group A (used in Section 1) and Group A1 (newly obtained) on the various items considered significant in social adjustment, such as home background, emotional stability, diverse interest, etc. (Table 8). Any marked differences found be-

TABLE 8
COMPARISON OF LESS OBVIOUS PERSONALITY CHARACTERISTICS

Item	Group A1*	Group A
1. Years at college	3.00	3.07
2. Age at entrance	17-6.4	17-9.3
3. Index—home residence background	1.86	2.00
4. Index—home cultural background	5.40	5.57
5. Index—number of siblings	3.29	2.86
6. Index—ordinal position in family	1.60	1.68
7. Index—positions of responsibility held	1.57	1.57
8. Index—Thurstone Personality Schedule	3.71	3.14
9. Index—emotional maturity (based on 92 questions chosen from Thurstone Personality Schedule)	50.55	43.75
10. Index—activity interest with people	19.00	16.13
11. Index—recreational interests	21.50	18.40
12. Index—reading interest	28.57	24.78
13. Intelligence rating	52 Percentile	53 Percentile
14. Academic ratio	2.67	2.71

*Group of seven having the highest sociability indices.

tween Groups A and A1 might lead to the determination of the causes for better social adjustment in A1.

The averages for all items for Group A1 were very close to those for Group A. Such slight differences as did exist between the averages for the two groups were found to be statistically insignificant. The two items (8 and 9) showing appreciable (though statistically insignificant) differences were both concerned with emotional ma-

turity. Group A1 scored nearer a B than a C rating on the Personality Schedule, C being the score for Group A. It would seem that A1 was more extrovert than was Group A since the rating at the A and B end of the scale is assumed by some psychologists to signify a predominance of extrovert over introvert traits. Group A1 marked favorably a larger number of replies to the significant questions (item 9) pointing toward greater emotional maturity than shown by Group A.

Except for the fact that Group A1 seemed to be more extrovert and more emotionally secure, the similarity of the other items in the personality background offered little for the determination of the causes for better adjustment in Group A1.

b. More immediate items of personality pattern. An investigation was made of some of the more immediate items in the personality pattern, those which would be evident at the first few social encounters; which could not possibly go unnoticed as might the less obvious characteristics studied above. Such *physical characteristics* as: neatness, cleanliness, good figure, attractive hair; such *intellectual characteristics* as: wide interests, serious deep thought, unusually good command of English, unusual abilities in some field; such *social characteristics* as: ease with others, need to be with others, good listener, pleasing manners; such *emotional characteristics* as: carefreeness, good balance of mood, lack of over-anxiety and of self-consciousness were among those included. A subjective rating on these items was made for each student. The author had met the members of Group A for fairly prolonged periods during the two interviews and very frequently during the year socially.

A note on methodology may be of interest at this point. Subjective ratings by only one or two people, a method used only for this section of the study, bear, of course, the limitations and all the possibilities of error, which any subjective judgment carries. No final conclusions were to be drawn from data so gathered but it was considered a possible means of discovering whether or not such data might furnish leads to specific factors in the establishment of successful social relations. Psychologists and sociologists are feeling more and more that the fear of not keeping always to the utmost scientific and objective methodology and thereby failing to establish absolute reliability for everything investigated has resulted in leaving unexplored

many fertile fields of research. It is their further opinion that research in this field of social psychology should be carried on simultaneously from both angles—the subjective and perhaps not completely reliable and the objective and more exact methodology. It was hoped that any significant leads found could later be checked through more objective means for definite conclusions.

Ratings were made on a 0-3 scale, 0 signifying the negative aspect of the item; 3, the positive. Each of the 28 subjects of Group A was rated on each item.² The ratings for the separate items under each section were summed to be the index for that section. Each subject then had an index for physical, intellectual, social, and emotional characteristics. Average indices were obtained for Group A (all 28) and for Group A1 (seven with highest sociability indices).

Results on physical characteristics showed for Group A an average index of 24.9, a range from 14-52. The corresponding average index for Group A1 was 25.9. No significant differences were found between Groups A and A1 for physical characteristics.

In the matter of intellectual characteristics, it was found that Group A's average index was 20.7; the range 13-44. Group A1's average index was 17.0, an appreciable difference. It would seem that A1 falls below the average for A in intellectual characteristics.

Analysis of social characteristics showed an average index of 24.0 for Group A; a range, 14-40. Group A1's average was 27.2, a slighter difference here than with intellectual characteristics; A1 falling above the average for A in this case.

In the matter of emotional characteristics, it was found that Group A's average index was 9.3; the range, 1-24. The corresponding mean for A1 was 14.2, a greater difference here than for any other group of characteristics.

Results of this section showed that Group A1 fell below the average of the entire Group A with respect to intellectual characteristics and above the average for emotional and social characteristics. In the matter of physical characteristics, no appreciable difference was found.

The negative correlation between intelligence and social adjustment and the positive correlation between emotional stability and social

² Each rating was compared as a matter of interest with the opinions of another adult living in as close contact with Group A as did the author and there was close agreement.

adjustment were further studied. The average sociability index of the seven with the highest intellectual indices (range 13-44) was 160.6, decidedly below the average sociability index for Group A (178.1) and that for Group A1 (207.0) corroborating the negative correlation between above average intellectual characteristics and the establishment of successful social contacts. What lay back of this negative correlation is a problem deserving intensive study. From the negative aspect, greater than average intellectual ability may carry with it an actual inability to make successful social contacts, or from the positive aspect, such ability may imply higher standards and keener critical powers, thereby limiting the possible range of those acceptable socially.

The average sociability index of the seven with the highest emotional indices (range 1-24) was 182.3, an insignificant difference compared with the 178.1 average sociability index for Group A. Social adjustment and emotional stability though showing some interrelation did not offer as clear cut a correlation as did social adjustment and intellectual characteristics. It would seem that extraneous elements were simultaneously at work and complicating the influence of the single "emotional stability" factor as determined on the rating scale used in this study.

c. Other personality characteristics. Predetermined concepts of fields of behavior or types of items, as approaches to the data, did not prove very fruitful. Such a method meant preconceived items against which the information on hand was analyzed. A different approach, one involving a direct consideration of the subjects themselves, was used in this section. There were no "a priori" ideas as to the alignment of the information on hand. *All* the data to be considered were studied as a whole for anything they might offer.

The first characteristic noted as common to the members of Group A1 was a certain vivacity in their social contacts. The statistical treatment called for a rating for each of the 28 in Group A on a 0-1-2-3 scale for the degree of vivacity in their social contacts. The average index of vivacity in social contacts obtained for Group A was 1.19. The corresponding index for Group A1 was 2.45, above the average for Group A in vivacity. This would be expected since it was because they showed markedly the presence of this item that it was considered. But when a study of Quartile IV (the group of

seven with the lowest sociability indices—Group A4) was made, their average index was 0.86, decidedly below the average for the total group.

The data were treated then from another angle. The 28 subjects were divided into four groups according to their ratings for vivacity in social contacts, 0's, 1's, 2's, and 3's. Individual sociability indices for those in each group were averaged, and may be seen in the table below.

Vivacity rating	3	2	1	0
Av. sociability index	198.2	191.3	170.7	168.1

A high correlation between sociability indices and ratings for vivacity in social contacts was found when either factor was considered the variable. Vivacity in social contacts seemed to influence the establishment of successful social relations.

A second characteristic observed as common to A1 was a general tolerance, a willingness to accept one's neighbor as she is. Statistical ratings on a 0-1-2-3 scale were assigned each of the 28 subjects for the degree of such tolerance displayed. Close observation of social relationships over a period of the academic year was supplemented by information gathered on this question during informal conversation with the subjects. The average index for Group A was 2.37; for Group A1, 3.00; for Group A4, 1.84. The group of 28 were divided according to their ratings, 0, 1, 2, and 3 for tolerance. Individual sociability indices for those in each group were averaged and may be seen in the following table.

Tolerance rating	3	2	1	0
Av. sociability index	185.6	175.0	168.0	125.0

With either factor as the variable, a high correlation between the two items was found. The characteristic of tolerance seemed to be an influential factor in promoting more extensive social contacts. This does not mean necessarily that the intolerant person can't make extensive social contacts. All that may be said at this point is that such a person *did* not make them.

An ability to engage in light conversation plus a general ease and a lack of self-consciousness in initiating conversation appeared as a third characteristic common to Group A1. The entire group of 28

members was rated on this item on a 0-3 scale and averaged 1.04. The corresponding average for Group A1 was 2.29; for Group A4, 0.71. The 28 were divided according to their ratings, 0, 1, 2, 3, and individual sociability indices for those in each group averaged. As may be seen in the table below, a high correlation was found between ability to engage in light conversation and ease in initiating conversation and high sociability index.

Ease in light conversation	3	2	1	0
Av. sociability index	209.0	183.3	181.4	165.3

A fourth characteristic common to A1 was a certain evenness of mood in their social relations which mood was predominantly happy. They laughed easily, they were not over-serious, though they did not avoid discussion of serious topics, and in general, they tended to keep their social contacts on a lighter plane. Ratings on a 0-3 scale for this item were assigned to each of the 28 subjects. The average index for A was 1.06; for A1, 2.43; for A4, 0.86. The 28 were then divided according to their ratings, 0, 1, 2, 3, on this item and individual sociability indices for those in each group averaged. These averages (see table below) showed a high correlation between ratings for ability to maintain an even, happy, not too serious mood and high sociability indices.

Even, happy mood	3	2	1	0
Av. sociability index	198.2	181.8	170.5	171.2

A fifth item, characteristic of Group A1, was a certain generosity and interdependence. An underlying personal integrity prevented them from falling into the over-generous or over-grasping types, leading to one-sided relationships which did not seem to promote the most satisfactory social adjustments. Their interest in others' needs, their offers of aid, and their requests for help were always completely divorced from any tension of imposition or self-consciousness. Ratings on a 0-3 scale for this item were assigned to each of the 28. The resulting average for A was 0.96; for A1, 2.57; for A4, 0.29. The 28 were divided according to ratings 0, 1, 2, and 3 and individual sociability indices for those in each group averaged. A fairly high correlation between high ratings for generosity and interdependence and high sociability indices was brought out.

Generosity & interdependence	3	2	1	0
Av. sociability index	198.2	210.7	172.8	165.8

In each of the five cases, with either the personality characteristic or the sociability index as the variable, a high correlation was obtained between the two.

d. Summary and conclusions. Preliminary study of the specific techniques, based on personality factors, underlying successful social contacts was undertaken in this section. The seven of Group A (first quartile, Group A1) showing the highest sociability indices were studied to discover what there might be in their personality patterns which might account for their success in the initiation and maintenance of social contacts.

Comparison of the averages for Group A1 and Group A on the less obvious items of personality background considered significant for social adjustment showed no highly significant deviations from the average for home background, diverse interests, and other items of background. An appreciable difference noted was that Group A1 tended to be more extrovert than the average, Group A, maintaining a balance between extrovert and introvert traits.

Study of the more immediately obvious characteristics possibly influencing social relationships showed, for Group A1, average tendencies (based on data for Group A) in physical and social characteristics. There seemed to be a tendency for over-intellectuality to work against widespread social adjustment. Though less statistically reliable than the above correlation, there seemed also to be a slight tendency for those with above average emotional security and stability to show more widespread social contacts.

The third part of the analysis which dealt directly with a study of Group A1 for their common characteristics proved most profitable. The items discovered by observation of Group A1 were statistically treated and confirmed. These were the five personality factors found to be common to Group A1 (most successful socially) but not necessarily characteristic of Group A as a whole and decidedly not characteristic of Group A4 (least successful socially). First, there was vivacity in approach which sends the subject more than halfway to meet another. Second, there was tolerance which allows one to maintain a less rigid standard, making a greater number of people acceptable for general social contacts. Third, there was the ability to

initiate conversation and to engage in light conversation in many diverse fields. Fourth, there was an evenness of mood, predominantly happy. Fifth, there was a matter-of-fact interdependence and a generosity which involves a certain amount of aid sought and aid given, stimulating social dependence and laying a basis for wider social relationships. Personal integrity keeps this trait from deteriorating into over-dependence and over-generosity. The high correlation in each case between the presence of these traits and high sociability indices seemed to establish these items as significant factors in the initiation and the maintenance of successful social contacts. They may be considered possible leads to the formulation of specific techniques for social adjustment.

SUMMARY AND CONCLUSIONS

An attempt was made to discover some of the factors underlying the establishment of *successful* social contacts. It was assumed that the establishment of social contacts was influenced by (1) an *interest* in such contacts and a desire to initiate and to maintain them, (2) an *environment* facilitating them, and (3) *specific techniques* for establishing them. Emphasis in this study was placed on the influences of *environment* and *specific techniques* since the data gathered on these two factors permitted an external approach to the problem of social adjustment. Social adjustment, as used in this paper, meant only the desire and ability to adjust to a variety of neighbors and to participate in social activities with them. This may or may not imply more intimate and deep friendships.

Two equivalent groups of 28 students each, differing in but one controlled environmental factor—Group A's environmental set-up included the factor of parallel and cooperative activity which Group B's did not—were studied for their existing social relationships. The questionnaire-interview method was used for the major part of the data gathered. Each subject checked on a questionnaire the status of her social contacts within the group in the Fall, two weeks after college opened and again in the Winter, four and one-half months later. The extent of acquaintanceship within the group before the opening of the 1933-1934 academic year was also noted. Information was obtained from the Personnel Research Bureau for objective items concerning the personality background of the subjects. Inten-

sive observation of Group A during the academic year afforded a third source of data.

Analysis of the existing social relationships within each group showed the effect of one environmental factor on resultant social contacts. In Group B, the average college group in the usual dormitory environment where there was need only to live together with a minimum of friction and where the factor of *interest* in one's neighbors was the primary determinant of the extent of the social relationships to be established, there seemed to be a tendency for the college student to restrict her friendships to 25 per cent of those living near her, to number among her acquaintances 39 per cent of the remaining, and to have no social engagements whatsoever with 36 per cent of her neighbors. These results are especially noteworthy in view of the fact that living near one another was the reason given most frequently by the subjects as the immediate cause for the establishment of their closest friendships at college. The results for Group A which had an additional environmental factor calling for parallel or cooperative activity on the part of its members, showed that there were frequent social engagements with 36 per cent of one's neighbors, occasional social engagements with 57 per cent of the others, and that there were no prolonged social engagements with only 7 per cent. The point to be stressed here was not that the dormitory living conditions under which Group A spent the year led to the establishment of more mature social behavior patterns but rather that an environmental factor stimulating and facilitating the establishment of successful social relationships had been isolated. Parallel or Cooperative Activity seemed to be among the environmental factors underlying the establishment of successful social relationships.

Determination of personality characteristics possibly useful in the formulation of specific techniques for establishing successful social contacts was the second problem. The group of seven having the highest sociability indices were studied intensively. These seven were found to be not different from the average with regard to the majority of the items analyzed. Three appreciable differences found were worth noting: Group A1 seemed to be more extrovert, less intellectual, and emotionally more secure and stable than Group A. Though of interest, the above results offered little that might be useful in the formulation of specific techniques. A direct study of the group of

seven for their common outstanding characteristics was then undertaken. The subsequent statistical treatment of the characteristics so arrived at gave high correlations between the presence of these characteristics and success in social relationships. The following traits seemed to be among the personality factors facilitating the initiation and maintenance of successful social contacts: vivacity in social approach, tolerance-willingness to accept one's neighbors as they are, ability to engage in light conversation, ability to maintain an even, predominantly happy mood, and generosity and social interdependence.

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ÉTUDE DE QUELQUES-UNS DES FACTEURS À LA BASE DE L'ÉTABLISSEMENT DES CONTACTS SOCIAUX RÉUSSIS AU NIVEAU DE L'ÉTUDIANT UNIVERSITAIRE

(Résumé)

Dans le but de découvrir quelques-uns des facteurs du milieu qui se trouvent à la base de l'établissement des contacts sociaux réussis, on a étudié deux groupes équivalents d'étudiants universitaires—chacun de 28—pour déterminer l'étendue de leurs relations sociales entre les groupes. Les données ramassées d'une manière scientifique au moyen de questionnaires—entrevues, d'inventaires, et de l'observation objective ont été traitées statistiquement et contrôlées à chaque point pour assurer la plus grande validité. Les groupes A et B ont été équivalents à tous égards sauf un: le Groupe A seul s'occupait d'une tâche coopérative spéciale qui exigeait

une activité parallèle ou coopérative de la part de ses membres. Les relations sociales plus étendues trouvées dans le Groupe A nous amènent à la conclusion que l'activité parallèle et coopérative semblent facteurs qui facilitent l'initiation et la maintenance des contacts sociaux réussis.

Une étude intensive des sept membres du Groupe A qui ont le plus réussi socialement a montré les caractéristiques suivantes communes de personnalité qui pourraient être possiblement utiles dans la formulation des techniques spécifiques qui se trouvent à la base de l'établissement des contacts sociaux réussis: la vivacité dans l'approche sociale, la tolérance, c'est-à-dire, une bonne volonté à accepter ses voisins comme ils sont, la capacité de s'entretenir, la capacité de maintenir une humeur uniforme et très heureuse, et la générosité et l'interdépendance sociale.

MALLAY

EIN STUDIUM ÜBER EINIGE FAKTOREN, DIE DER FESTSETZUNG ERFOLGREICHER, SOZIALER ANKNÜPFUNGEN BEI UNI- VERSITÄTSSTUDENTEN UNTERLIEGEN

(Referat)

Beim Versuch, einige der Umgebungsfaktoren zu entdecken, die der Festsetzung erfolgreicher, sozialer Anknüpfungen unterliegen, wurden zwei gleichwertige Gruppen von Universitätsstudenten (28 in jeder Gruppe) untersucht, um den Umfang ihrer sozialen Intragruppenverhältnisse zu bestimmen. Die Ergebnisse, welche wissenschaftlich durch Interview-Enquete, Inventare, und objektive Beobachtungen gewonnen wurden, wurden statistisch behandelt und bei jedem Punkt nachgeprüft, um die höchste Zuverlässigkeit zu versichern. Gruppen A und B waren gleichwertig in jeder Beziehung ausser einer Tatsache: nur Gruppe A beschäftigte sich mit einer besonderen zusammenwirkenden Unternehmung, die parallele oder zusammenwirkende Tätigkeit seitens ihrer Mitglieder verlangte. Die ausgedehnteren sozialen Verhältnisse, welche bei Gruppe A gefunden wurden, führten zur Schlussfolgerung, dass parallele und zusammenwirkende Tätigkeit Faktoren zur Erleichterung des Anfangs und der Erhaltung der erfolgreichen, sozialen Anknüpfungen zu sein schien.

Eine intensive Untersuchung der sieben Mitglieder von Gruppe A, die sozial am erfolgreichsten waren, wies die folgenden gemeinsamen Persönlichkeitszüge auf, die möglicherweise brauchbar zur Formulierung der spezifischen Methoden sein möchten die der Festsetzung erfolgreicher, sozialer Anknüpfungen unterliegen. Diese waren folgende: Lebhaftigkeit bei der sozialen Annäherung, Toleranz, d.h. eine Bereitwilligkeit, die Nächsten anzunehmen, wie sie sind, die Fähigkeit, leichtes Gespräch zu führen, die Fähigkeit, eine vorwiegend heitere Stimmung zu erhalten, und Freigebigkeit und gegenseitige Abhängigkeit.

MALLAY

SHORT ARTICLES AND NOTES

THE BISHOPS OF THE PROTESTANT EPISCOPAL CHURCH AND BIRTH CONTROL

RAY H. ABRAMS

The bishops of the Protestant Episcopal Church on October 9, 1934, by a vote of 44 to 38, passed a resolution on birth control which was in the form of an endorsement of "the efforts now being made to secure for licensed physicians, hospitals, and medical clinics freedom to convey such information as is in accord with the highest principles of eugenics and a more wholesome family life wherein parenthood may be undertaken with due respect for the health of the mother and the welfare of the children."¹

For the House of Bishops of the Episcopal Church to go thus on record as favoring birth control is an indication of a radical shift in attitude on the part of the leaders in a conservative religious body.

Since the vote was so close (if three bishops who voted "yes" had been on the other side, there would have been a tie vote), it is of interest to note what sociological factors may be correlated with and possibly help to explain the votes of the two opposing groups.²

Perhaps the first question which arises in the minds of those seeking to account for the differences between the two groups is in regard to marital status. Of the 44 who voted for the resolution, only two bishops, William Scarlett of Missouri, and John C. Ward of Erie, Pennsylvania, are celibates, and of the 38 who were on the negative side, only one, Bishop Francis M. Taitt of Philadelphia, is unmarried. As far as the House of Bishops of the Protestant Episcopal Church is concerned, then, the remarks of the Right Reverend Simeon Arthur Huston, Bishop of Olympia, Washington, that the

¹ New York *Herald Tribune*, October 21, 1934.

² There are 119 bishops of the Protestant Episcopal Church. Hence, the 32 present at the meeting at Atlantic City, N. J., who voted on birth control do not represent all of the members of the House of Bishops (2). This fact should be borne in mind in referring to the data and conclusions in this article.

Since the size of the two groups here under consideration is relatively small, generalizations based on conclusions made about the bishops in this study and applied to the larger groups of clergymen would be unwarranted. However, there are certain data and inductions made about the two groups of bishops which are both valid and significant.

I have used as the main source of information about these men the biographical data supplied by them in *Who's Who in America* of 1934 (1). This has been supplemented by correspondence. Eleven of the bishops who did not list children in this volume have informed the writer that this non-listing was an oversight, and they do have children.

objections to birth control were "a lot of pious twaddle from celibate clergymen" cannot apply.³

Table 1 gives the ages of the bishops. It covers a range of 46 years.

TABLE 1
AGES OF THE BISHOPS OF THE PROTESTANT EPISCOPAL CHURCH
ACCORDING TO VOTE ON BIRTH CONTROL

Number			Number			Number		
Affirm. Nega.			Affirm. Nega.			Affirm. Nega.		
41	1		56	1	1	71		
42			57	2	1	72		2
43	1		58	3		73		2
44			59		2	74	2	
45	1		60		1	75		
46	1		61	3	4	76		1
47		1	62		1	77		
48			63	1	3	78		2
49	1	1	64	2	2	79		
50	2	1	65	2	1	80	1	
51	2	1	66	4	1	81		
52	4	1	67	2	1	82		
53	3	1	68	2	4	83		
54	1		69		2	84		
55	1	2	70		1	85		
						86	1	

The mean age of the bishops on the affirmative is 59.06 and for those on the negative 62.63.

While the average age of the first group is slightly lower than those in the second, that does not reveal the actual situation. Inasmuch as there are six more bishops on the affirmative than the negative, a comparison of the age groups is not strictly accurate, but it is of interest to note that the lowest age in the negative group is 47, while there are four below that on the affirmative, the lowest being 41. Furthermore, there are 24 bishops who voted "yes" who are 58 years or younger, and only 10 who voted "no" who are either 58 (or 57) or younger. A glance at the table shows that one reason for the high mean age of the affirmative group is the fact that two bishops are 80 and 86 respectively, while the highest age on the negative is 78. It indicates that old age is not always on the side of conservatism, but when the mass is considered, it is significant that the bishops who voted in favor of the resolution on birth control are decidedly younger. 54.5 per cent are 58 years of age or younger, while only 26.3 per cent of the opposing faction are 58 years or below.

Table 2 gives the average mean age at the time of marriage, the number of children in both groups, and the averages.

³ New York *Herald Tribune*, October 21, 1934.

TABLE 2

AGES AT TIME OF MARRIAGE, NUMBER OF CHILDREN, AND AVERAGE NUMBER OF CHILDREN PER FAMILY OF THE BISHOPS OF THE PROTESTANT EPISCOPAL CHURCH

	No. of bishops married	Average mean age at marriage	No. having children	Total no. children	Average children per family	Average per family having children
Affirmative	42	29.14	38	132	3.14	3.44
Negative	37	29.22	35	114	3.08	3.25

The complaint of those who are against birth control that the advocates of these measures are practicing race suicide is not supported by any evidence from the size of the families of the bishops who were in favor of the resolution on birth control. In fact, these men have, on the average, larger families than those who are opposed to the dissemination of the knowledge of contraceptive devices. While the differences in the average size of the families is by no means large, it is sufficient to show that the bishops who voted for birth control are inclined to have more children than those who voted against it.

Judging from the number of small or childless families, men in both groups are themselves making use of the knowledge of birth control. All of these families cannot be explained on the ground of sterility, low fecundity, or abstinence from sex relations, though doubtless if intimate case histories were securable, some of these explanations would be correct. One bishop, who voted for the resolution, wrote me that he had no children "to my great regret and sorrow."

Since the two groups are not exactly even in numbers (there being 42 married in one and 37 in the other), exact comparison of the distributions according to number of children cannot be made. However, there is a sufficient difference between the two to take note of the comparison.

The average age at marriage is practically the same for both groups

TABLE 3

DISTRIBUTION OF THE NUMBER OF CHILDREN PER FAMILY FOR THE BISHOPS OF THE PROTESTANT EPISCOPAL CHURCH

Range of no. of children per family	0	1	2	3	4	5	6	7	8
Frequency for children in families of bishops voting affirmative	4	5	3	10	12	6	2	1	
Frequency for children in families of bishops voting negative	2	8	6	7	5	2	2	3	1*

* The bishop with eight children has been married twice and has had four children by each wife.

(Table 2). A tabulation of the marriage age of the 3931 new sketches in *Who's Who in America* for 1929 showed that the average for the clergymen was 27.45 years (1, pp. 23-24). For the number of children, clergymen in this sampling headed the list of the professions and groups in *Who's Who in America* with 2.86 children. (The bankers were next with 2.51 children.) The bishops, in the study here under consideration, married almost two years later on an average than do the clergymen as a group, and they have a slightly higher average for children—3.11 as over against 2.86 for the clergymen as a group.

This last phenomenon, the lateness of the marriage age of the bishops and the greater number of children, is difficult to explain, though it is tempting to indulge in speculation.⁴

A correlation of further interest is between the affirmative and negative votes and the birthplaces of the bishops casting them. Of those in the first group, nine were born in the New England states, 10 in New York state, three in Pennsylvania, and two in New Jersey. That is, 22, or exactly 50 per cent, were born in the Northeast section of the United States. Ten were born in the South (including West Virginia). The birthplaces of the others are scattered over Ohio, Illinois, Missouri, Iowa, and Colorado. One was born in Canada and another in England.

By contrast, the bishops on the negative were more largely southerners. Only two were born in New England, six in New York state, five in Pennsylvania, one in New Jersey, or 14 from the northeastern part of the United States. Thirteen were born in the South, and one each in Delaware and Maryland, states with pronouncedly southern traditions. The others come from Ohio, Indiana, Missouri, and Wisconsin. One hails from Canada and another from England.

The geographical factor of birthplace is not sufficiently strong to enable one to lean upon it too heavily as an explanation to account for the difference in voting. However, it is significant that 50 per cent of the affirmative votes came from men born in the Northeast, and only 22.7 per cent from those born in the South, while only 36.8 per cent of the negative votes came from men born in the Northeast, and, if we include Delaware and Maryland, practically 40 per cent (39.7) were cast by those born in the South.

The average age of the southern bishops on the affirmative is considerably lower than the average age for the other side. It is 56.0 years for those voting favorably on the resolution, and 62.7 years for those opposed. In other words, those bishops from the South in favor of birth control (as recorded in the resolution) are 6.7 years younger than those from the South who are opposed to it.

⁴Perhaps a fairly large number of clergymen failed to list their children. The bishops would have had a lower average for children if I had not discovered that 11 of them had failed to list theirs. (*Vid.* footnote 2 *supra*.)

The relationship between the present residence of the bishops and their votes shows only three more affirmative votes from the North than the South (14-11), and only four more negative votes from the South than the North (14-10). The bishops who have moved to the far West show the real difference.

This brings us to a further revealing phase of the study—the amount of social, or territorial, mobility among the bishops and its relationship to the way they voted. It may be stated in the first place that, in general, and this is true for all of the religious denominations and sects, nearly all of the clergymen born in the South remain in the South, and those born in the North do not go South.⁵ The highest official leaders of the Protestant Episcopal Church are no exception. Of the ten born in the South, and voting the affirmative, only two had moved to another section of the United States—one to Idaho from Kentucky, and another to New York from Virginia. Of the 15 southerners on the negative, only two (excluding the three bishops in foreign lands)⁶ had moved to another section of the country—one to Indiana from Tennessee, and one to Illinois from South Carolina.

On the other hand, by comparison, the migration of the northerners has been considerable. There are 46 bishops all told who were born in the North and east of the Mississippi River. Of these, 15 have migrated a considerable distance and to a different section of the country (in addition to the six who are on the mission fields).

These data relate themselves to the votes on birth control in this way. Of the 15 bishops in the *far* West (thus omitting the conservative Kansas, etc. in the mid-west), only one was born in the South and he in Kentucky. And of these 15, 11 came from the North and east of the Mississippi. (Two are from England and one from Missouri.) Moreover, only three of the 15 bishops in the *far* West voted against the birth control resolution. All six of the bishops on the west coast voted for it.

Since practically all of the ecclesiastics under discussion who have migrated any considerable distance from the East to the West have voted on the liberal side of birth control it would seem that there is some relationship between mobility of this type and liberalism. Does this demon-

⁵In a study made by the author of social mobility among various occupational groups and professions (not as yet published), this fact of the relative territorial immobility of the clergymen stands out. There are several explanations to account for this—theological, cultural, etc., which need not concern us here.

⁶The bishops who are stationed outside of the United States proper cannot be counted in a mobility of the kind studied here since the motivations which lead men to go to the mission fields, and the reasons for the appointment of individuals to these fields as bishops are quite different generally from those which are explanations of migration within the United States.

strate a correlation between pushing west and non-conformity, breaking with old traditions, and open-mindedness to new ideas? Or do these data show the liberalizing influence of the West? Perhaps there is an element of both, though the sampling is not sufficiently large to lead to any well-established conclusions. At least, it can be said that it was these bishops in the far West who cast the decisive votes for birth control in the House of Bishops.

Another factor which partially accounts for the difference in votes is that of educational qualifications and background. Space does not permit, and neither is it necessary to list all the schools of higher learning attended by the bishops. The following table lists the names of the more important schools attended by both groups for undergraduate work.⁷

TABLE 4
SOME OF THE MORE IMPORTANT COLLEGES AND UNIVERSITIES ATTENDED FOR
UNDERGRADUATE WORK BY THE BISHOPS OF THE PROTESTANT
EPISCOPAL CHURCH

Schools	Bishops voting affirmative	Bishops voting negative
<i>Northern</i>		
Harvard	6	2
Yale	6	1
Pennsylvania	3	1
Hobart	3	5
Columbia	2	1
Trinity	2	3
Cornell	1	1
Johns Hopkins	1	1
St. Stephens	1	2
Union	1	2
<i>Southern</i>		
University of the South	2	6
University of Virginia	2	
William and Mary	1	1

Bishops on the affirmative, not included in the above, received their collegiate education in the following schools in the United States (the obscure ones have been omitted): One each in Bates, University of Buffalo, Brown, Centre, Furman, Iowa State, Kenyon, University of Louisville, University of Michigan, South Carolina College, and Washington University.

Those schools attended by the negative group (with the exception of the

⁷It is not possible to distinguish between those who completed their work for a degree and those who did not. Hence Tables 4 and 5 simply represent schools attended.

very obscure ones) are: One each in the University of Georgia, Kenyon, Roanoke, Racine, and South Carolina College.

Of the bishops who voted for birth control, 27 were educated in northern colleges and universities, and only nine in the South. Eight had graduate work in either Harvard, Yale, Columbia, or Johns Hopkins. Of the group who voted against the resolution, 20 went to northern schools, and 11 to southern ones, while only two did graduate work at Harvard, Yale, Columbia, or Johns Hopkins.

While the mere statistics of colleges and universities attended by the members of the two groups do not form such an impressive picture of contrast as to constitute an explanation which would account for the difference in voting on birth control, there are at least three sets of facts which should be noted here. (1) Seventeen men in the affirmative group went either to Harvard, Yale, Columbia, or Pennsylvania, while only five of the negative attended these schools. (2) Although there are six less men in the negative group, a glance at the schools attended by both groups shows proportionately more men among the 44 who went to colleges of recognized standing than from among the 38. (3) The graduate work carried on in the big universities was for the most part by men now in favor of birth control, eight of them and only two of the others. While none of these points are in themselves very weighty, they do build up a cumulative picture of the differences in educational background of the opposing voters.⁸ Furthermore, in looking over the complete records of these men as furnished in *Who's Who in America* one is impressed even more with the superior educational background of the group as a whole that voted for birth control.

TABLE 5

THEOLOGICAL SEMINARIES ATTENDED BY BISHOPS OF THE PROTESTANT
EPISCOPAL CHURCH

Schools	Bishops voting affirmative	Bishops voting negative
General Theological (New York City)	12	11
Episcopal (Cambridge)	10	2
Philadelphia Divinity	4	1
Union (New York City)	3	0
Virginia Theological	7	6
University of the South	4	5
Others	3	8

⁸If the reader be curious about the number of Phi Beta Kappas, eight liberals and nine conservatives belong to this honorary society. Mere membership in this fraternity, apparently, is no indication of a liberal or a conservative attitude among the clerics on birth control. The sample is too small, of course, to make any valid generalizations.

The last item of inquiry is in regard to the theological training of the bishops. They have taken work at the above institutions in the United States.

The seminary training of these men may have had some further effect in the conditioning of their attitudes on social questions. Some of the schools in the North are more aware of these approaches than those in the South. At any rate, while 29 of the bishops voting for birth control received theological instruction in some of the best schools in the North, only 14 of those who voted against it went to these schools. On the other hand, 11 men from both groups studied theology in the University of the South and at Virginia Theological.

There are certain factors responsible for the conditioning of the attitudes of the 82 bishops on birth control which, of course, elude the statistical approach, and these could only be discovered by intimate and careful case analysis. Attitudes are frequently formed by incidents and life situations which do not appear in statistical tables. Yet, when the religious leaders under discussion are divided into two groups on the basis of their votes on the birth control resolution, certain facts and relationships are worthy of note. They may be summarized as follows:

1. The question of celibacy did not affect the votes.
2. The bishops who voted "yes" are on the average younger men than those who voted "no." In the case of the southerners those voting for the resolution are 6.7 years younger than those who voted against it.
3. The bishops in favor of birth control have a slightly higher average for the number of children than those who are opposed to the dissemination of such knowledge.
4. Men born in the North and those moved to the far West (practically all of whom are northerners) are more liberal minded on birth control than those born in the South. The relationship between present residence of the bishops and votes shows a few more votes in favor of birth control from those living in the North, and a few more against it from those living in the South. The really significant difference is in the votes of the bishops living in the far West, 12 of the 15 voting "yes."
5. In educational background, the members of the hierarchy who voted for birth control have had, on the whole, a better collegiate and seminary training than the conservatives.

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THE ACCURACY OF THE MEDIAN AND MEAN OF A GROUP OF JUDGMENTS

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In the Murphy *Experimental Social Psychology* (2, p. 505) reference is made to H. C. Knight's Master's thesis (1) in which there are reported several studies on group judgments. In one of the experiments the members of a class were requested to guess the temperature of their classroom. The average of the judgments was found to be within four-tenths of a degree (Fahrenheit) of the true temperature (which was assumed to be identical for the several parts of the classroom).

Now the senior author of this note has found that his students frequently obtain an erroneous impression from this experiment as they fail to consider the conditions under which the mean or median of the estimates will approximate the "to be estimated value." Vague notions to the effect that majorities are always right are apt to be carried over to this problem from the fields of citizenship or political science, for it is impressive indeed to learn that the median (or mean) value is better than the vast majority of the individual estimates. Of Knight's 56 judges only eight gave estimates which beat the class average of the estimates.

It should be noted first of all that when Knight's study is repeated on subjects in isolation, quite similar results are obtained. In one instance where this was attempted by the senior author the median value was within six-tenths of a degree from the true value; the median value was beaten by only 13 per cent of the individual estimates. This can only mean that the presence of others was not an important item in Knight's experiment. The situation was not strictly social, in the commonly accepted meaning of this term.

Quite obviously Knight's observers must have had considerable acquaintance with the phenomenon in question, room temperature. Had she asked her subjects to estimate the number of bushels of the world's wheat crop, the median would not have coincided with the true value. In an unselected group such as she had, certain subjects must have been quite expert at guessing temperature, while others would have tended to overestimate and still others to underestimate room temperatures. A balancing of extreme judgments would thus be expected. Let us suppose, however, that there had been introduced some factor with which there was little acquaintance, some factor which tended to force errors in a common direction. Then, of course, the median and mean would not give accurate measures of the phenomenon. Such a situation would have been anticipated had Knight's subjects been quizzed immediately after coming into the classroom from a much colder or warmer region. Physiological cues are not so adequate in these situations. It is conceivable that, if

half the subjects had entered the room from a region ten degrees warmer and the other half from one ten degrees cooler, the mean of the estimates might still have approximated the true value. Needless to say, such highly artificial situations rarely occur. Quite commonly, however, a single disturbing factor enters to make the average of the estimates higher or lower than the true value.

It was to make clear to students in social psychology how inaccurate the median and mean of a number of estimates can be when such a disturbing factor is introduced that the following demonstration was made. In general the techniques associated with the size-weight illusion experiments were employed (3, p. 406). Each subject was presented with two circular closed, black boxes of identical external material; the boxes were 1 and $3/16$ inches thick. Box *A* was 2 and $3/4$ inches in diameter; the other was either 2 and $1/4$ (called box *B*) or 3 inches in diameter (called box *C*). Boxes *B* and *C* each weighed 2.8 ounces. The directions were: "You are to estimate the weight of box *B* (or *C*). To give you some idea of the weight I will tell you that box *A* weighs approximately 3.5 ounces or 100 grams." The subject was to heft *A* and *B* (or *C*) and record his estimate. He was then presented with a third box, *C* or (*B*), and asked to estimate its weight. No opportunity was given to heft *B* and *C* together. One-half the subjects first estimated *B*'s weight and later *C*'s while the other half first estimated *C*'s weight and later *B*'s. One hundred college students served as subjects. They were tested either in small groups or individually. Judgments were made in terms of ounces or grams in accordance with the individual's preference.

The median of the weight estimates of the large box, *C* (true weight, 2.8 ounces), was found to be 2.6 (σ med. $\pm .26$) and that of the small box, *B* (true weight, 2.8 ounces), 3.5 (σ med. $\pm .39$); the illusion effect was present in all but three subjects. The means practically coincided with the medians (2.60 and 3.57). The estimates of 14 per cent of the subjects fell on the median for box *C*; 4 per cent gave better than the median estimate. Of the estimates for the weight of the box *B*, 37 per cent were identical with the median and 20 per cent were better than the median.

In summarizing it can be said that by the use of the techniques customarily employed in studying the size-weight illusion one can demonstrate that the mean and median of the estimates of 100 people, at least in the field of lifted weights, need not closely approximate some "to be estimated value." Close approximations occur only when the estimators are well acquainted with the object of the estimation and so cannot be misled by the introduction of some factor which might otherwise tend to lead the majority of observers astray in a common direction.

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THE RELIABILITY OF QUESTIONS IN THE THURSTONE PERSONALITY SCHEDULE

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The Thurstone Personality Schedule, first described in 1929 (3), is too well known to require extensive description at this time. Because of its comprehensiveness and practical value in the identification of neurotic personalities, it has stimulated extensive research into its nature and characteristics. These studies have demonstrated the fact that the questions composing the Schedule are of unequal value in the identification of the neurotic personalities. Indeed, in their original paper the Thurstones showed that the respective questions varied widely in ability to differentiate between the poorest and best adjusted subjects, and published a list of 42 statements which they found most differentiating. Harvey (1) pointed out that the questions varied in value as well because of unequal incidence, and suggested a revision of the questionnaire from this point of view and also in light of the fact that certain aspects of the neurotic personality seemed overweighted in that they were represented by a disproportionate number of items in the original schedule. He submitted a list of 30 items which he considered most valuable on the basis of the criteria of incidence, discrimination, and non-duplication. In a thorough and painstaking study, R. R. Willoughby (4) treated rather incisively the closely related problems of the relative homogeneity or heterogeneity of the items composing the schedule and the degree to which fairly homogeneous phases or affects of the neurotic personality are over- or under-represented in the schedule. Being of the opinion that the original schedule was too long, he offered, on the basis of his own findings, together with those of Harvey and Thurstone, a revised list of 25 items. His questionnaire differs further from that of Thurstone in that he allows for five, rather than three gradations in response, a device "which should be beneficial to the rapport and at the same time conduce to reliability and to accuracy of diagnosis."

In these and other studies of the characteristics not only of the questionnaire as a whole, but also of the specific items composing the questionnaire, attention has been focused almost exclusively on the validity of responses to specific items with reference to responses to other items or to the schedule as a whole ("the criterion of internal consistency"). Similarly, in testing the reliability of the questionnaire, exclusive reliance has been placed on the "split-half" method, and no data, so far as the writer is aware, are available on the reliability of specific items. In the use of this method, there exists always the possibility that a persisting factor may be biasing the responses to all questions in a constant direction with the result that, though all of the responses, and consequently the total score, may appear highly reliable and valid, the contrary may actually have been the case. As a matter of fact, because errors tend to be random and therefore compensating, the total score of a questionnaire usually possesses a much higher degree of validity and reliability than do the responses to specific items (2). In their analysis of the validity of responses to specific items, both Willoughby and Harvey seem to have somewhat lost sight of this fact. The problem of the reliability of specific items becomes of particular importance in the construction of shorter revised lists such as those proposed by Harvey and particularly by Willoughby, since not merely does each specific item exert a greater influence on the total as the number of items decreases, but with a smaller number the tendency of errors to compensate for one another does not operate with the same statistical regularity which prevails when larger numbers are utilized. Obviously where a schedule is composed of a few items, each of them highly unreliable, the total score would tend to be more unreliable than if a larger number of items were included, or if the individual items were more reliable.

In order to secure a measure of the relative reliability of the individual items composing the Thurstone Personality Schedule it was twice submitted to three different groups of students, with time intervals between submission of two, four, and eight weeks respectively. Such a procedure in addition furnished another approach to the problem of the reliability of the schedule as a whole, and at the same time gave some indication of the degree of stability over a period of time of the subject with reference to the phenomena studied by the schedule.

A summary and comparison of the gross results of the two presentations will be found in Table 1. The degrees of correlation found between gross scores of the first and second presentations (Column *e*) do not differ significantly from one another in spite of differences in the time interval, and they are likewise comparable with the measure of reliability secured by the Thurstones through the utilization of the split-half method. The somewhat lower correlations here presented may be the consequence of instability in adjustment of subjects, or variations in attitude—in their sincerity

TABLE 1

COMPARISON OF RESULTS OF TWO SUCCESSIVE PRESENTATIONS OF THURSTONE PERSONALITY SCHEDULE

Interval between presentation	Number of subjects	Mean score 1st presentation	Mean score 2nd presentation	Correlation between scores	Av. no. changes per subject	Per cent of total re- sponses changed
(a)	(b)	(c)	(d)	(e)	(f)	(g)
2 weeks	18	34.9	25.5	.84±.05	31.5	14.1
4 weeks	27	59.4	54.9	.91±.03	34.6	15.5
8 weeks	22	44.6	41.6	.74±.06	34.6	15.5

or in the interpretations of their mental states. The Thurstones themselves pointed out the importance of the attitude of the subject towards the questionnaire in the determination of his score. In view of the length of the questionnaire and the nature of many of the questions, it is significant that variation in final scores were as small as those found. However, a general tendency for scores at the second presentation to indicate a lower degree of maladjustment than those at the first presentation should be noted. But on the basis of the results here presented, the general value of the schedule in the identification of the least and most maladjusted subjects can hardly be questioned.

Columns (f) and (g), however, would indicate that the reliability of the schedule might be endangered were it materially reduced in length. The reliability of the questionnaire as a whole is much higher, as would be expected, than are the responses to specific statements. That the data in columns (f) and (g) are indicative of unreliability rather than the actual changes in the phenomena to which they refer is attested by the absence of a significant increase in the number of changes with the lengthening of the time interval.

That the items themselves differ widely in reliability is shown in Table 2. In this table the numbers refer to the actual order of the items in the schedule. In this table only complete reversals in response are tabulated—changes either to or from the “?” response are disregarded. Though the median of the distribution is 5.58, changes, because of the marked skewness 10 per cent of the items showed more than eleven (16.4 per cent) changes.

From an examination of the table it would appear that at least two characteristics of the items composing the questionnaire are of importance in determining their reliability: incidence, and the degree of objectivity to the subject of the phenomena referred to in the question. In general, items

TABLE 2
CHANGES IN RESPONSE TO ITEMS ($N = 67$)

Percentage of responses changed	Number of changes in response	Items
0	0	22, 29, 56, 60, 77, 87, 102, 134, 160, 165, 185, 198, 216, 219
1.5	1	7, 27, 34, 63, 67, 93, 101, 112, 114, 122, 141, 194, 210
3.0	2	5, 51, 58, 71, 107, 125, 132, 135, 170, 172, 189, 218, 223
4.5	3	18, 26, 33, 44, 68, 74, 115, 116, 144, 159, 166, 167, 199, 211, 215
6.0	4	8, 40, 41, 49, 50, 64, 84, 96, 99, 104, 106, 113, 173, 177, 180, 183, 188, 190, 200, 203
7.5	5	{ 2, 11, 13, 14, 15, 23, 43, 45, 59, 61, 62, 69, 82, 86, 88, 90, 91, 97, 100, 105, 118 124, 128, 129, 130, 133, 142, 143, 147, 162, 171, 174, 204, 213
8.9	6	1, 3, 17, 9, 25, 30, 36, 46, 53, 54, 55, 57, 65, 66, 79, 83, 103, 121, 123, 131, 140, 145
10.4	7	4, 48, 81, 89, 92, 111, 126, 127, 146, 150, 157, 182, 191, 205, 209, 154, 156, 168, 176, 179, 212
11.9	8	6, 10, 37, 78, 95, 110, 120, 149, 152, 155, 163, 178, 187, 208, 214
13.4	9	21, 24, 32, 42, 98, 117, 119, 136, 137, 158, 161, 184, 195, 196, 201, 207
14.9	10	12, 28, 35, 38, 76, 80, 109, 192, 193, 197, 220
16.4	11	75, 85, 139, 186, 202, 221, 223
17.9	12	20, 52, 70, 108, 164, 169, 217
19.4	13	39, 47, 73, 94
20.9	14	153, 206
22.4	15	138, 148, 175
23.8	16	16, 19, 72
25.3	17	31
26.8	18	
28.3	19	151
29.8	20	
31.3	21	
32.8	22	181

possessing very low incidence are highly reliable. The coefficient of correlation between the degree to which neurotic responses to items were made and the number of changes in response to them is $+ .762$. Questions referring to objective facts about the subject's family or his own physical traits or conditions are highly reliable. Questions involving comparative judgment

of the subject's own mental states (e.g., do you worry *too long* over humiliating experiences?) rank very low in reliability.

As for the subjects themselves, some indication was found that the responses of the less well-adjusted subjects tended to be more unreliable than those of the better adjusted, r 's ranging from $+0.40$ to $+0.60$ having been found between the neurotic scores of subjects and the number of changes in response at the second presentation of the questionnaire as compared with the first. This is, of course, only another aspect of the relationship between incidence and unreliability already pointed out. On their face the data do not show which is cause and which is effect, but it may not be at all improbable that the high relationship found between unreliability and incidence of neurotic responses to items may be a consequence of the lesser stability of neurotic subjects indicated by the coefficients of correlation cited. It would appear, however, that the resubmission of the schedule after some time has elapsed might be an additional aid in the identification of mal-adjusted subjects, if due regard were paid to the number of changes in response.

The reliability of responses to specific items is of particular interest in connection with the selected lists of items compiled by the writers referred to earlier in this paper. No attempt has been made to ascertain the reliability of any of these lists as a whole, but every item in all three of the lists is above the median in unreliability of all the items in the original schedule. Twenty-four of Thurstone's most differentiating, 21 of the 30 which Harvey considered most valuable, and 16 of the 25 in Willoughby's selected list are in the upper quartile of unreliability. Willoughby feels that an increase in the range of response may serve to increase the degree of reliability. That this device will actually do so may be open to question (2).

The results of this study may be attacked as unreliable because of the small number of subjects. But comparison with other studies would indicate that our sample, though small, is fairly representative. The incidence of neurotic responses to items substantially paralleled the findings of Harvey in his study, to which reference has been made. Thurstone, in his original study, found females significantly more neurotic than males, a conclusion with which this study concurs, the actual difference between the means of the two groups being about four times the standard error or the difference. Moreover, some indication was found of a higher degree of neuroticism among Jews than among Gentiles. This difference persisted even when members of the same sex were compared separately.

An interesting by-product of this investigation and perhaps a lead for further investigation may lie in the difference in the scores made by the groups utilized in this study. The first group (those to whom the questionnaire was submitted at the end of two weeks) is from a small middle western coeducational institution located in a town of about the size of the

Lynd's Middletown, the third group is from a small men's college in an eastern city of comparable size, and the second group is from a large cosmopolitan institution in a large eastern city. The number of Jews in the first and third groups is negligible, in the second group they constitute an overwhelming majority. An examination of Table 1 shows that the second group of subjects from the institution in the large city manifested a much higher rate of maladjustment than did the subjects from the smaller institutions in the smaller towns. That this is not merely the result of variations in the racial (Jewish-Gentile) composition of the two institutions has been ascertained by comparing Jews only with Jews, and Gentiles with Gentiles. The assertion is frequently made that neuroticism is most prevalent in our large cities, or that small colleges, particularly coeducational ones, facilitate personality adjustment. Our results are in harmony with this point of view. However, because of the small number of subjects involved, they are not conclusive. Our results may mean simply that students in the large institutions are more given to introspection, are more honest and sincere in their responses. The question is important, and merits further investigation. In spite of its defects the Thurstone Schedule should prove adequate for such a study.

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STUDENT OPINION IN RELATION TO AGE, SEX, AND GENERAL RADICALISM

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The opinions of 12 groups of undergraduate students in Washington Square College of New York University were measured by means of four attitude scales relating to attitude toward war, attitude toward the distribution of wealth, attitude toward birth control, and attitude toward the existence of God. Data on each of the four topics were secured from

about half of the total number of subjects. The four attitude scales have been described in detail in a previous publication (4).

The average age of the subjects was 20.3 years, with a standard deviation of 3.2 years. Correlations between age and scores on the attitude scales are indicated in Table 1. It is evident that radicalism as measured by these

TABLE 1
CORRELATION BETWEEN AGE AND RADICALISM

	<i>r</i>	P.E.	N
$r_{a.G}$	.04	.05	162
$r_{a.BC}$	— .01	.05	161
$r_{a.DW}$	.12	.05	158
$r_{a.W}$	— .45	.04	131

scales is not significantly related to age so far as attitude toward birth control, toward the distribution of wealth, or belief in God are concerned. The moderately high correlation between age and attitude toward war suggests the possibility of a critical age range during the college years during which an earlier leaning toward pacifism is tempered.

An attempt was made to determine whether there was any correlation between stability of opinion and age by studying the effect of propaganda related to the attitude scales, administered by three different techniques (4), upon the attitudes of the subjects in relation to their age. The relationship of age to susceptibility to propaganda is indicated in Table 2 by the correlations between changes in attitude scale scores and age (change in the direction urged by the propaganda considered as positive). In general, no uniform trend of relationship appears in connection with any par-

TABLE 2
CORRELATION BETWEEN AGE AND SUSCEPTIBILITY TO PROPAGANDA

Group	<i>r</i>	N	Scale	Average <i>r</i>
1	.08	16	<i>W</i>	.04
2	.13	20	<i>DW</i>	— .08
3	— .08	26	<i>BC</i>	— .10
4	— .22	23	<i>G</i>	— .18
5	.10	16	Technique [omitting scale <i>DW</i> . See (4)].	
6	— .11	21		
7	— .65	22		Speaker — .30
8	— .18	14		Radio .07
9	.28	31	Printed	— .01
10	— .35	13		
11	.26	16		
12	— .23	23		

ticular scale. It may be significant that the highest average correlation occurs in the case of the presentation technique (speaker) found to be most effective in changing attitudes, although the large sampling errors for groups of this size must be remembered. That this relationship is negative indicates a trend toward decreased effectiveness of the propaganda with increasing age. This finding is in accord with Marple's results (3) using separate age levels.

Another possible relation between age and the effect of propaganda on attitudes may be studied by considering changes in attitude scale scores with respect only to the size of the change, ignoring the direction (whether in accord with or contrary to the propaganda). Such a measure, not of susceptibility to propaganda but of instability produced by the propaganda, showed no marked correlation with age, as shown in Table 3 by the average correlations for each scale and for each technique.

TABLE 3
CORRELATION BETWEEN AGE AND INSTABILITY

Scale	Av. r	Technique (omitting scale DW)	Av. r
W	— .09	Speaker	— .10
DW	— .15	Radio	.04
BC	.12	Printed	.17
G	.07		

Inasmuch as several investigators have found sex differences in radicalism to be in the direction of greater average conservatism for women, it is interesting to find in this group of subjects a greater average radicalism among the women in the case of all four attitude scales. No obvious selective factor appears to have been responsible for this reversal, since practically all of the subjects were following the general curriculum and represent a random selection of undergraduates. The sex differences in attitudes are summarized in Table 4, the higher scores representing the more "radical" attitudes.

Graphs showing the susceptibility to propaganda of men and women, and the instability of opinion of men and women (as defined above), were prepared. No trend indicative of sex difference in these respects was found.

The term "radical" has been arbitrarily applied to those attitudes favorable to atheism, pacifism, birth control, and a fundamental redistribution of wealth. Considering a high score to represent this extreme of the attitude continuum for each scale, positive correlations were found to exist between radicalism on one topic and radicalism on another, as indicated in Table 5. Similar positive relationship between radicalism or conservatism on several

TABLE 4
SEX DIFFERENCES IN RADICALISM

	<i>N</i>	Mean	σ	$\sigma_{av.}$	$\sigma_{diff.}$	$\frac{D}{\sigma_{diff.}}$
Scale <i>G</i>						
Men	134	61.40	16.73	1.44		
Women	45	62.94	11.15	1.66	2.198	.7
Scale <i>W</i>						
Men	138	112.90	20.41	1.73		
Women	31	119.75	15.40	2.77	3.26	2.1
Scale <i>BC</i>						
Men	125	80.94	15.52	1.31		
Women	62	88.87	12.32	1.56	2.04	3.9
Scale <i>DW</i>						
Men	137	71.30	14.56	1.24		
Women	41	74.33	11.30	1.76	2.15	1.4

topics has been found by Likert (2) and Carlson (1). A comparison of the latter's data is of especial significance since four of the five attitude scales used were closely similar in content to the four used in the present investigation. Such a comparison indicates a remarkably close agreement in the size and range of the six correlation coefficients representing the interrelationship between these four scales, and the average of the six correlations in Table 5 (.33) is similar to the average of the six found by Carlson (.30).

TABLE 5
CORRELATION BETWEEN RADICALISM ON TWO TOPICS

Scales	<i>r</i>	P.E.	<i>N</i>
$r_{W.G}$	.156	.100	43
$r_{W.BC}$	.303	.087	50
$r_{W.DW}$	.375	.083	49
$r_{BC.DW}$	.362	.084	49
$r_{DW.G}$	.389	.088	42
$r_{BC.G}$	.317	.076	63

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BOOKS

VILFREDO PARETO. *The Mind and Society*. Ed. by Arthur Livingston. (Trans. by Andrew Bongiorno and Arthur Livingston.) Vol. I, Non-Logical Conduct. Vol. II, Theory of Residues. Vol. III, Theory of Derivations. Vol. IV, The General Form of Society. New York: Harcourt, Brace, 1935. Pp. xviii+497; 498-884; ix+885-1432; viii+1433-2033.

I

Vilfredo Pareto was an old man who had zestfully lived a long time; had seen a great many things; and had reflected shrewdly, wisely, and with gusto upon them.

He was a man of many hobbies, of vivid idiosyncracies, and of strange fondnesses. He particularly liked cats. At his home in Switzerland he had a miniature zoo and quite a sizeable garden. Domestic animals appear frequently in his writings. He learned much from the ways of animals and his comparisons between the domestic animals on four legs and those on two are illuminating.

Vilfredo was a poor sleeper. Instead of thrashing about in his bed, as so many afflicted with that dread dis-ease do, he spent those hours reading and studying. Were it not for this sleeplessness, it is quite probable that much of the vast amount of documentation found in his *Mind and Society* would never have been ours to enjoy, admire, scoff at, and ponder. The references and bibliography alone in this four-volume work are, quite literally, magnificent. It is the work of a scholarly lifetime simply to have read, digested, and evaluated the writers to which he makes pithy references in this treatise.

In my opinion, Pareto was a sociologist from early youth. Like many other great sociologists, including Confucius, Aristotle, Plato, St. Thomas Aquinas, and many more he did not apply the label "sociologist" to himself. That particular label, describing the science or art which has for centuries attempted to study group relationships as a whole, had not been invented. Sociology is a very old discipline. The label dates from Comte.

For many years before he turned full attention to sociology he was a mathematician and, later, an economist. In both fields he had achieved eminence. He died in 1923 in his villa at Lucerne; died as he had lived, an Italian with world sympathies. He was called the Karl Marx of the bourgeoisie, a title which amused, annoyed, irritated, and delighted him. Mussolini offered him the position of Senator, which position he refused.

Among the many of his opinions was the one that democracy was the least effective means of controlling or running any large population. Except in very tiny territories, true democracy did not exist, Pareto held, whereas

the word for it—*that*—flew into the far reaches and corners of the world.

So much for a thumbnail sketch, however inadequate, of one of the most challenging figures of our generation.

Pareto has written many things, but we are chiefly concerned in this review with the book which in the American translation is called *The Mind and Society*. This book, or treatise as he called it, is in four volumes for the English and American reader, and in two much larger volumes for those who can read French readily. It originally appeared, of course, in Italian. The American edition like the others, it needs to be said, is poorly arranged, very wordy, sketchily indexed, and badly organized.

If we were to consider this four-volume book on a purely "literary" basis, whatever that smug phrase may connote, the conclusion would be unfavorable. To consider *The Mind and Society*, however, as a purely literary production would be exceedingly unfortunate intellectually. We might compare the physical exposition of Pareto's main ideas to a person careless and perhaps even sloppy in his general appearance; one who might, even, be very fat, but who carries his two hundred ninety odd pounds without any consciousness of his burden, and who is able, despite the added obesity, not only to move about as readily as anyone else, but to take in a great deal more territory and take it in effectively.

I specifically mention the treatise's lack of organization and its circumlocution here because someone, not knowing this, might easily become discouraged or disgusted after he had finished the first volume and thus refuse to go further. He who would make such a mistake would, in my opinion, shut the doors upon an instructive, illuminating, and challenging mind. This work is worth the little amount of extra time and patience it will demand. It is not at all exaggerating to point out that the intellectual and spiritual gold in the mine which this treatise represents is worth the extra digging it may necessitate.

Professor Lawrence J. Henderson, an outstanding bio-chemist, and a scientist of wide sympathies and understanding, thinks so highly of Pareto's treatise that he did an extraordinary thing. For three years, in addition to his crowded duties and laboratory work at Harvard, he has been holding a seminar on Pareto for the sociology department of that university. This seminar, intended chiefly for graduate students, has been swamped by professors.

Two years ago I was a member of that seminar. At the time two or three students were enrolled in it. The attendance was seldom less than twenty. It often went beyond that and it always consisted of the heads of such departments as economics, mathematics, history, business administration, etc. The arguments, discussions, and intellectual battles that took place at that seminar will certainly serve this person, at least, for a lifetime of interesting memories.

II

Pareto's first great contribution to sociology and/or social psychology is that he gave to this science a substantial methodology. (I see very little point to the effort to separate sociology and social psychology since a very fine shadow line, if any, divides the two.)

He constructed as the basic feature of his general society a conceptual scheme which he called the social system. This title, of course, is not unique, but the use which he makes of it is decidedly so. He points out that a growing society is an equilibrium composed of individuals, which individuals are not only members of different groups, but are associated with different institutions and belong to various economic and social classes.

Pareto deliberately simplifies his conceptual scheme of a social system. He knows, and the intelligent reader knows, that he does not consider society as contained entirely within his scheme, but that he uses it as the framework. He is aware of all that he has left out, but he is also aware that to include everything would include two or three thousand years of work.

Pareto found that this social system of his consisted of individuals, groups, and group relationships, all of which were in a position or state of Mutual Dependence. He dismisses, so far as social forces are concerned, the naïve idea of cause and effect in human relationships. His idea is that society, being alive, is dynamic, therefore shifting, changeable, and continuously interacting. For these reasons, all things that happen take place because of mutual dependence and mutual interaction.

The basis of the treatise, therefore, is the idea of this mutual dependence, together with an extraordinarily ample and illuminating analysis of the mutually dependent variations of his variables, as Professor Henderson expresses it. His contribution here, many people will say, is nothing new. This has been done before in other sciences. It had never, however, been done in sociology until he did it. It has never been done by any one of his vast erudition, scientific objectivity, learning, sympathy, and understanding.

For the purposes of his treatise Pareto considers social systems as concrete phenomena arbitrarily defined as an aggregation of human beings not only mutually dependent but, insofar as the system is successful, in a state of equilibrium.

The first fourth of this treatise devotes itself to a study of the non-logical actions of men and develops the point that human beings generally live much more by their sentiments, their feelings, their superstitions, their hopes, wishes, dreams, vague and otherwise, than they do by their carefully reasoned logic. This idea is not new. Pareto's contribution, though, lies

in his objective, thorough methodological organization of this idea; his immense amount of factual material. A second, to me tremendously valuable, contribution of Pareto's then follows. It is a well documented study, methodically and scientifically approached, of the nature of, and value of, the *sentiments* which govern most of humankind. Since these sentiments are in their very nature vague, often diffused, nearly always general, sometimes ill defined, Pareto felt it essential to make a taxonomic study of the *manifestations* of these sentiments. Since sentiments rule humanity, it is intelligence, Pareto felt, to understand these sentiments, to be able to recognize them when we see them, and to know how dictators, kings, presidents, statesmen, politicians, and others, make use of them for their own, and sometimes for their country's good.

III

Pareto then proceeds to a definition, description, and explanation of what he calls "residues" and "derivations." Both of these terms Pareto uses in a distinctly limited and Paretian sense. This is a little trick of Pareto's against which the reader needs to be warned: he occasionally gives certain words definitions of his own. The device has amazed several scholars, but those who are really anxious to understand a new approach to sociology and social psychology merely accept this mannerism and go on with their work. If there is any royal road to learning, certainly a detour or two of this kind need not prevent the avid searcher for more light from travelling upon it, for a little distance, with Pareto.

Although he devotes hundreds of pages to both derivations and residues, let it suffice for this place to say that he considers a *residue* as the *manifestation or observable expression of a sentiment or feeling*.

He considers a *derivation*, according to the condensation of Professor Henderson, as a "non-logical argument, explanation, assertion, appeal to authority, or association of ideas or sentiments in words."

Pareto points out that, while the mass of humanity is ruled by its sentiments, it nevertheless naïvely believes that it is ruled by its thinking and logic. With a mass of evidence that is truly stupendous, Pareto demonstrates this in a methodological and original manner that has won the admiration and respect of some of the keenest minds extant.

Residues, he points out, while actually only few in number, greatly exceed the importance of derivations because residues are basic. They change very slowly, whereas derivations change not only over-night, but from minute to minute.

Pareto presents evidence showing that historically residues have preceded derivations. Such a basic residue as that of religion comes first, whilst the derivations of theology follow. The residues dealing with sociability were a part of the life of mankind long before many of the

derivations expressing the sentiments growing out of sociability existed. The sexual residue is as old as life. The derivation by sentiments surrounding it have not only changed within the lifetime of individual groups but have literally thousands of expressions in different places where human beings live together. The sexual residue, for example, is behind the urge that brings men and women together. This has not changed fundamentally according to any observable data. The derivations of courtship, free-love, "necking," marriage, divorce, auto parking, "parties," coeducational extra-curricular activities, dances, etc., etc.; these derivations have shifted, disappeared, reappeared, and have gone through countless phases. Let us examine a bit further the specific nature of both derivations and residues, since about these two ideas flow many hundreds of pages of his thesis.

IV

For the purposes of convenience, and because some explanation is essential in an orderly study, Pareto establishes four classes of *derivations*.

1. *Affirmation*. He gives a great list of examples of affirmation, and points out the countless instances in which human beings govern much of their lives, take many of their orders, and base many of the actions of their daily activities upon unfounded assertions which are readily agreed upon by listeners.

2. *Authority*. Here examples multiply themselves literally by the million. As Professor Henderson points out, we have merely to look at modern advertising to see this derivation in its full glory. A distinguished-looking man smokes a cigarette which gives the advertising concern an opportunity to imply, quite crudely, that it is "the thing to do." The evidence shows that it sells millions of packets. A society leader uses a certain type of tooth paste or corn cure. The sales justify the advertising, as the evidence shows. The Bible, of course, is one of the great authorities of the world. It has been used for everything, as Pareto points out, including much that it has never said. Traditions are tremendous authorities. The appeal to custom is as old as mankind and as strong. It is obvious, of course, that the authority of God, of Christ, of Moses, of Buddha, Confucius, etc., serves as centuries of evidence as to the power of the derivation of authority.

3. *Accord with Sentiment or with Principles*. This derivation has profoundly influenced the human race. The general impatience with research, the marked dislike on the part of the great masses of people for facts about the long revered authority (witness the resentment against much of even the most careful of debunking). Most human beings prefer superstitious beliefs to facts, and, as Bacon points out, "numberless, in short, are the ways, and sometimes imperceptible in which the affections color and infect the understanding." This is from *Novum Organum* Book I Aphorism XLIX. Psychologists call this phenomenon wishful thinking. Although

Bacon, Caesar, Heroclitus, Aristotle, Plato, Johnston, and others, including Freud and his school, have touched upon this idea, no one has given it the thorough, methodological, systematic, and careful treatment to which Pareto has submitted it in this work. It must be stated in its entirety to be judged.

4. *Verbal Proofs.* Pareto devotes the whole of Chapter 10 of his book to a caustic, sometimes humorous, but always carefully delineated exposition of this derivation. It is one of the best chapters in his treatise and includes a great mass of evidence from others who have written in the fields of history, philosophy, sociology, religion, and literature in general. As Professor Henderson points out, "it must be an exceptional person indeed to have read this chapter understandingly without discovering the nature and source of many of his own errors."

Pareto, aware of a fact that is common knowledge to all scholars: that words mean different things to different people, constantly warns us never to dispute about words. He therefore makes frequent use of letters instead of words, using the familiar *xyz* so that ideas may stand forth as nearly separated from our own sentiments as possible. He uses theorems often, and resorts quite frequently to various mathematical devices. These, however, are within the grasp of those who have had the ordinary high school or college mathematics.

V

Pareto arbitrarily sets forth six classes of residues: (1) instinct of combinations; (2) persistence of aggregates; (3) the need of manifesting sentiments by external acts; (4) residue of sociability; (5) the integrity of the individual and those depending on him; and (6) the sexual residue.

He feels that these six residues contain the very source of human activities. He is quite aware that these six do not cover the whole field of human interaction, but anyone genuinely interested in knowing something of the motivating forces behind social interaction could well afford to spend some time with Pareto on these residues.

The last two volumes of the book are synthetic. Pareto has given us certain details of his social system. He has expressed, based on observable evidence, his ideas regarding the non-logical actions of society, the residues and derivations upon which much of social action rests, and then he proceeds to a survey of the significant aspects of what is really the social history of Europe. There are several hundred pages of this, and a summary is out of the question. In these pages, as well as in the whole of his amazing treatise, Pareto points out again and again his awareness that he himself is not free of his own sentiments and superstitions. He shows how he has bent-over-backwards, as the saying goes, to counteract his own defects.

In this last part of *The Mind and Society* he piles up example after ex-

ample, illuminatingly, of residues, derivations, and especially of the mutual dependence of the interacting units of society. He places quite a bit of stress upon the utility of an individual, direct and indirect, and the utility of a collectivity. He mentions, with some detail, the fact that from one point of view society is divided into two great groups, the *speculateurs* who prey upon humanity, taking chances with other peoples' means and with their own, who are shifting, impatient, unstable, and greedy, and the *rentiers* who are the conservative, investing, monied groups, who literally hate change and resist it.

Pareto had very little use for intellectuals. He strongly believed that the numerous scientists who operate under the pressure of their own derivations have no place in science. He pointed out scores of examples of social scientists who could not get away from their own biases.

Regardless of the inadequacy of this review, and of the tremendous bitterness on one hand and exuberance on the other of his treatise, it is my opinion that no one at all interested in social science can afford to ignore Pareto. All his life he was a scientist. He tried with, in my opinion, great success to give sociology not only a methodology, but an integrated conceptual scheme. He succeeded in a large measure and, of course, he failed in an equally large measure. His work is pioneering, but more than that, it is the beginning of an attempt which has already borne much fruit, to place sociology upon that firm ground on which, within the last ten years, it has already begun to rest. What Pareto has started, others may follow. Pareto is abundantly aware of the fact that his efforts will pass. He said once that the sooner his sociology was succeeded by something more substantial, the better it would be for that science (or art, whichever you want to call it.)

Professor Henderson considers Pareto's treatise as a work of genius. Professor Bousquet ranked it with the works of Aristotle. Dr. Raymond Willoughby feels that Pareto has said nothing new and has taken several hundred pages to do it in. Take your choice. There is no doubt that under the terms "Derivations" and "Residues" Pareto has simply crowded sociology into a vast bag from which he pulled out the various elements and forces of society, only to label them as he saw fit. Nevertheless he *did* organize his ideas so effectively as to warrant the attention of everyone to whom Social Science is still a puzzle.

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A QUESTIONNAIRE ON ETIQUETTE*

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Roughly, these questions fall under three headings: (1) the nature of etiquette; (2) etiquette as it seems to function in general experience (in the society known to the informant); (3) etiquette in the experience of the individual.

Obviously, all three are subject to the bias of the individual who answers. But most people can perceive certain differences between their own reactions and experience and those of the group in general, and it is valuable to get the individual's picture of both, as long as it is recognized that always he speaks as an individual. Exigencies of space require the omission of answers to Part III, but those who answer the questions for themselves will find that a certain conflict between theory and practice is part of the material. In putting the questionnaire to practical use, it will be necessary to paraphrase certain questions for certain groups.¹

I. THE NATURE OF ETIQUETTE

1. *How Would You Define Etiquette?* Etiquette is generally held to be "the rules of the social game," understanding *social* in its restricted sense, as applying to polite society. Unsatisfactory as this wording may be, it makes a convenient background for an attempt at a more precise and extended definition, since it suggests that etiquette is highly formalized, that it is concerned with relations between people, that it is most elaborately developed in the world of leisure, and is most recognizable in connection with forms of pleasure or of pomp which have become ritualized. It also implies a stake or goal to be won by mastering the rules or lost by ineptitude; and

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¹The questions and answers were originally written as an assignment in a seminar, *The Impact of Culture on Personality*, given by Dr. Edward Sapir at Yale University, 1933-34. The approach is in large measure a direct product of this course.

that this stake may be the reason for playing, or merely a pleasurable by-product.

From another point of view, it may be said that etiquette consists of certain highly formalized patterns of behavior which owe their existence directly and explicitly to social sanction. It is not necessary for a rule of etiquette to have any further reason for existence than that "it is the thing to do," and it is the thing to do because it is approved by the approved group. Even the most devout observer of etiquette claims for it no higher authority than this—as long as he recognizes and admits it to be etiquette and nothing more.

A form of behavior which comes under the category of etiquette may, and often does, owe its existence to some originally necessary or expedient observance. The current rationalization, however, does not always correspond to its actual origin. (Cf. the moot question of tipping the hat.) Nor is it necessary, in order that the individual may feel justified in observing a rule of etiquette, for him to be able to furnish any rationalization. For example, to be rigidly correct in the wording of formal invitations, acceptances, regrets, the turning down of a particular corner of a calling card, the dimensions of the card itself, the manner of presenting it, and the number of cards presented upon various occasions may be highly gratifying to an individual, not because he feels that he is acting sensibly, but because he takes a certain pride in knowing the thing to do and in doing it with a graceful nonchalance. The very arbitrariness of the act may enhance this gratification, stamping it as part of a secret code for the elect: something one could not work out by mere reason, but would have to know by some special privilege of birth or cultivation; a badge of belonging to the in-group. It follows that etiquette tends to define, emphasize, and preserve social distinctions, using *social* here in both the narrower and the broader sense, and that it may easily implement and foster snobbery.

While etiquette is not exclusively the fruit of leisure (being found in any group), its most elaborate developments are apt to occur where there is a highly graded society and a leisured class to cultivate them. Wherever it occurs, it may be conveniently classified as "luxury behavior" in contrast to "necessity behavior" based on the conviction (whether rationalized or not) that *in itself* it is fruitful, inevitable, noble, or at the least, natural. Such a statement opens up a pos-

sible discussion too long to pursue at this point, but I believe that it touches, however impressionistically, upon a vital characteristic. A distinction would have to be made, however, between etiquette recognized as such and etiquette which has merged with or is masked by something else, as suggested in some of the following questions.

(The terms *folkways* and *mores* as current today would cover etiquette but would not be restricted to it.)

2. *What is the Relation of Professed Belief to Actual Conduct in Connection with Etiquette?* It is part of the nature of etiquette that a large proportion of those most obedient to its dictates render their homage with professions of amusement at the perfunctory and irrational character of their own actions. In this respect it forms an interesting contrast to religion, where frequently lip service is rendered and practice withheld. This contrast grows piquant in view of the popular conviction that "actions speak louder than words," and the fact that insincerity in religion is condemned as utterly evil, whereas the more elaborate and sophisticated etiquette becomes, the less does it deplore an admission of perfunctoriness amounting almost to open insincerity.

What at first glance may appear paradoxical in this system of "acts without faith" is soon seen to be both consistent and logical in terms of the system itself. As formalized behavior, etiquette tends to free acts and gestures from affective implications. Its effect is to generalize any given situation, to mark it as one so stereotyped that a cliché of behavior is ready-made for it, thus draining it of the emotional significance bound up with the implication that it is unique. (The contrast in emotional value between the general and the individual is illustrated in the conversation of Hamlet and his mother: "Why seems it so particular with you?") This de-personalizing propensity of etiquette makes it possible and worth while to do what you don't really "believe in" for the sake of being able to act without being held responsible emotionally.

There is a paradox involved, however, between the attitudes upon which etiquette is based and those which are popularly approved today as a basis for general behavior. Our creed (not necessarily supported by our actions) stresses the individual rather than the group, the inner rather than the outer meaning of word or of act. Etiquette, however, is concerned not with a man's inner life but

with his behavior toward others. It accepts the deed for the will. (And the extent to which it runs counter to popular maxims and sayings suggests its lack of harmony with the attitudes to which they testify. That such attitudes may in themselves be mere hangovers does not lessen the confusion.) The man who scoffs at etiquette and nevertheless conforms to it is enlarging its dispensation of irresponsibility to cover his attitude toward the whole system rather than merely his response to a given situation which falls within it. Thus the element of frank insincerity inherent in etiquette may point the way to a working solution of what for many is a real, if not always realized, conflict. They may execute the teachings of etiquette and better the instruction, applying it also to the instructor.

By stressing the general rather than the individual, the formal rather than the spiritual, by upholding tradition, decorum, and the *status quo*, and frowning upon innovation, excess, revolt, etiquette exhibits its kinship with the classic rather than the romantic in art. To point this out is relevant here in so far as the current values of art are paralleled in the life of a period. Romantic values have been dominant in the tradition of art and of life handed down to us through the Victorian age. But the system of etiquette which we have also inherited through that age embodies now as then a set of values (at least in part) contradictory. Despite an incessant process of accommodation, we are sensitive to the incongruity involved—perhaps more sensitive, because more aware, than were the Victorians. It becomes necessary, therefore, either to oppose the practices of etiquette as inimical to the beliefs we cherish, to accept the disparity as part of the complexity inevitable in life, or to rationalize it, frequently in terms of “realism” as opposed to “idealism.” (Maxims might be cited in support of all three responses, but would differ strikingly in number, currency, and overtone.)

A different sort of clash between practice and professed belief, and a less conscious one, is seen in the people who quite sincerely declare, “Oh we are the most unconventional folks in the world,” and who in fact observe all the conventions of etiquette except one or two on which they base their claims to independence. This ability to feel independent while conforming is a great conservative force: it strengthens the natural tendency of etiquette to preserve the *status quo* and also to perpetuate itself. At the same time it permits the

individual to retain the illusion of not having surrendered to convention. When challenged on a point of etiquette, the "unconventional" conservative usually finds a rationalization to prove that something beyond mere etiquette is concerned.

3. (A) *Is There a Sharp and Clear-Cut Distinction between Behavior Patterns That Can Be Classified under Etiquette and Other Behavior?* (B) *How, If At All, Do You Differentiate between Etiquette and Good Manners?* (C) *How Do You Decide in a Given Instance Whether Behavior Classifies As Etiquette or Not-Etiquette?*

A. No. Etiquette has a tendency to merge with ethics, with fashions, with aesthetics—in fact, almost any category of actions is apt to develop its rules of what is good form, which in certain degrees and from certain viewpoints become stereotyped into a system of etiquette. One's religion, one's political party, one's attitude toward love, all may be conditioned by etiquette. These examples, however, represent etiquette as an adjunct of something else. *Savoir faire* in admitting or concealing one's religion, one's attitude toward love, one's political party would be a matter of etiquette proper. In certain circles in France, etiquette prescribed what stand one should take on the Dreyfuss case. The aristocrat who ruined a *soirée* by insisting on arguing pro-Dreyfuss offended against political-social etiquette in holding his views. But he offended society etiquette by proclaiming his views in such a manner as to discommode his hostess, and from the standpoint of etiquette this was by far the more serious offense. Etiquette may not forbid a man to keep a mistress, whereas to introduce her into the home or even the presence of a "good" woman would be the most flagrant sort of error.

The fact that "professional etiquette" and "professional ethics" are used almost synonymously, although it may be ascribed to mere linguistic inaccuracy, also suggests the vagueness of the distinction between etiquette and ethics, and the tendency of one to merge into the other. Moreover it hints that etiquette may overflow its boundaries, not only in the forms it assumes, but also in the motives which cause these forms to be respected. Many people feel it a moral duty to conform to the rules of etiquette. They may express the feeling in those terms or rationalize it into good taste as opposed to vulgarity and exhibitionism, or the necessity of recognizing social

rules as the crystallized wisdom and righteousness of past generations. They are less apt to admit that this sense of moral obligation to conform arises from their own problems of adjustment.

The question of decency is closely connected with morals, but it is also connected with fashion and with etiquette, which two again are intimately interrelated. As a rule, to transgress blatantly the accepted standards of morality and decency is also a violation of etiquette. It was once indecent and therefore contrary to etiquette for a lady to show her ankles, although it was quite proper for her to expose her breasts in a manner that our shortest-skirted period would have considered very shocking. Examples from primitive societies show how arbitrary and artificial are the canons of "modesty" which may be invoked equally in terms of morality or of etiquette and which must certainly be considered also in terms of fashions, in dress and in behavior.

Since it is the fashion for men to shave, it is considered a breach of etiquette to appear unshaven, and a man who went to a dinner party in such a state would be considered rude toward hosts and guests. Such a breach becomes even more poignant if a man neglects to shave before escorting a woman to party, theatre, or dance. In this case she would be apt to interpret the social error as something deeper, reflecting his personal opinion of her—although she would not normally take it as a personal tribute if he shaved.

Obviously etiquette is itself a system of fashions, based upon current modes and changing as they change, though at times with considerable "lag." Both morals and fashions are involved in the question of smoking for women, which lost its immoral tang (except for a hangover in the response of those brought up under the earlier attitude) as the fashion became established. The chaperone is another link between morals and etiquette. I have read in the letters of a smart young woman of the last century a bitter complaint that she just wouldn't go out at all if she had to go without a chaperone, "like a nobody." Later, smart young women complained that it was old-fashioned to have a chaperone. And eventually the official guardian of morals was ushered out by etiquette as she had been ushered in (her exit, like her entrance, having been decreed by other forces).

The intellect and emotions, or at least their expression of them,

are also subject to etiquette. An old book of manners criticized one young lady for discussing learned subjects in public and another for indulging in a discussion of lyric poetry which was deemed unladylike as it was connected with love. As for etiquette in displaying or concealing emotions, it is enough to mention the conventionalized behavior at weddings, funerals, etc., in our own society and in others. Aside from formal functions, the etiquette of emotion is suggested by the former compulsion upon ladies to faint or burst into tears at the mere mention of anything unpleasant or intense. On the other hand, there are numerous examples of stoicism as prescribed by etiquette. In affecting the expression of emotion, etiquette may be assumed to affect indirectly, by social influence, the emotions expressed (or suppressed) and hence the characters of those who entertain the emotions. It plays a large rôle in shaping the current ideals of character toward which every individual, consciously or unconsciously, reacts in terms of imitation or revolt.

B. The terms etiquette and good manners are often used interchangeably. I am apt (even here) to use them so myself, yet I perceive a difference which may be largely a matter of individual interpretation. I should say that good manners are related to and often concomitant with etiquette but are not equivalent to it, and that it is possible though not usual for each to occur without the other. In a sense, the two may be considered complementary. Manners are more personal than etiquette, and more individual, although like etiquette they posit social relations and cannot be perceived when the individual is in real isolation. They are at the same time more vague, being implicit whereas etiquette is explicit. Hence, good manners vary less between neighboring or related localities than does etiquette. Good manners would be more or less the same all over the United States, for example, while the forms of etiquette might differ radically.

Good manners prompt one to observe the forms of etiquette if he knows them. But an individual might have very good manners and still be unacquainted with the etiquette specific to a certain situation or group. Also, good manners might under peculiar circumstances prompt a person to dispense with etiquette in order to spare the feelings of one for whom observance might be painful—either because he was uninstructed in the forms or for some other reason.

It is good manners and also etiquette for a man to "tip" his hat in greeting a woman on the street. It is good manners though not precisely etiquette to refrain from mentioning before a third person a subject which would wound his feelings or which one intends to keep a secret from him. On the other hand, it is possible to remain within the confines of etiquette and at the same time to transgress the bounds of good manners—as by introducing a companion to a friend in the approved form, and proceeding to discuss with the friend a party to which the companion had not received a sorely coveted invitation.

C. I think this is an important question, but I am not able to find a satisfactory answer to it. The best I can do is to adduce part of the answer on the basis of previous questions and specific cases.

One test would be the question of sanction discussed under No. 1, and its corollary: that etiquette is bound to have a substantial nucleus of sheer form, not solely referable to its function or the reaction of the agent. In order to classify as etiquette an act must have become part of the set code, so that by definition it could not be spontaneous, although it may and should seem so. Social relations are another *sine qua non* of etiquette; it cannot operate in a man's relations with himself, and if it seems to do so it implies the imaginary witnesses who are so potent in motivation.

Another characteristic, mentioned under No. 2, is that etiquette provides a formula as substitute for emotional participation. This may be true in connection with the "deeper" feelings as well as in the routine of daily life. Through fashion it has become a very serious form of etiquette to wear black at a funeral. We are so adapted to this form that wearing black seems a "natural" expression of mourning, and some widows cannot bear to resume bright colors even after the year stipulated by etiquette is over. In certain countries, however, white is the "natural" expression of the same emotion. And though to "go into" mourning purports to be a natural expression of regard for the deceased, it would be deemed a dishonor to his memory to be too natural—that is, to be so overcome by grief that you could not bestir yourself to provide the proper weeds. In order to satisfy etiquette, feeling is neither an excuse nor a requisite: to wear black and refrain from public merry-making is enough.

The de-emotionalizing function is a dubious test, as it may become tenuous to the point of invisibility. Etiquette prescribes full formal dress for weddings, presumably as a symbol of reverence for the institution of marriage and rejoicing in the happiness celebrated by the ceremony. For a man to wear his great-grandfather's full dress suit to a formal wedding would be a breach of fashion but not of etiquette. To wear a modish sack suit would be a breach of etiquette and a far less flagrant breach of fashion. To wear a dress suit in the height of style but very dirty would be a breach of etiquette, implying either crass ignorance or a slur on hosts, guests, and bridal pair. If the suit were clean but crumpled, it would be a point of fashion barely verging on etiquette.

More cases might be cited, but I think the ones given suggest certain guidemarks, and at the same time show how difficult it is to formulate a safe rule for drawing a line subject to so much variation according to the situation and the individual who evaluates it.

4. *Do You Think Etiquette Is Useful?* Decidedly so. It seems to me that for the group it performs the function of habit for the individual. It reduces friction and effort by making automatic many trivial and frequently performed acts or gestures. Life would be very wearing if we had to figure out a response for every situation instead of being furnished with a set of quasi-mechanical responses. Etiquette makes it almost instinctive to show to others the respect and consideration to withhold which might constitute a slight. At the same time, the de-personalizing propensity already mentioned makes it safe to show such consideration without fear that it will be interpreted as more than it really is. In the case of eligible bachelors, for example, such safety is not to be despised. Obviously the beneficent mechanizing and neutralizing effect of etiquette requires that both agent and reagent be familiar with its forms. (Cf. No. 12, also No. 9.) This qualification is not enough, however, to prevent its being useful to society.

The insidious effect of etiquette in standardizing thought and feeling cannot be considered a deterrent against its usefulness, but must rather be regarded as an attribute of thought and feeling, which are bound to find some mold.

5. *Can You Conceive of a Society without Etiquette?* No. I cannot conceive of a society able to function without it, nor, even if

this were possible, able to continue for any time without developing it, any more than I can conceive of an individual able to get along without habits.

6. *Is There an Element of Play in Etiquette?* Yes, in two senses of the word. The first is implied by the description of etiquette as "playing the social game." In addition, it is possible to derive a certain histrionic satisfaction from playing the part prescribed by etiquette with the full or partial realization that the lines and gestures have been learned by rote. This type of satisfaction is not at all incompatible with genuine and pleasurable participation in the game itself, on a different level. It does of course imply that for some reason the individual does not feel entirely at one with the group which takes for granted the observance that yields him this diversion. Yet he need not feel painfully detached. Large weddings, banquets, and receptions, formal calls and condolence calls are occasions which may furnish even respectably adjusted citizens with a vision of themselves either as puppets or as players—as witness the remarks with which the average man struggles into full dress in preparation for a function he really wishes to attend.

7. *Does Etiquette Differ for Different Social Groups?* Yes, although less radically than between different countries. Sometimes the differences between social classes at a given time seem to correspond to differences in a single class over a period of time, but this may be explained by a lag in imitation. To a certain extent the etiquette of the lower strata of society is apt to be modelled on that of the aristocracy; but there is also a complex of forms native to the lower strata. This "native" element would be stronger in rural and weaker in urban populations. That portion of the etiquette of the lower classes which is modelled on the "upper crust" also differs from its model, partly through changes wrought by economic exigency or by fusion with the native element, partly through ignorance, misinterpretation of function, clumsiness of imitation.

Certain usages which betray social status have been used in popular fiction and drama until they are stock formulae. Among these, the formula of introduction, which furnishes examples of clumsy imitation, would repay detailed study as a typical pattern in etiquette, and one particularly interesting in its combination of the formal and the functional. To record its variations and determine why so

many, even of the *au fait*, dread to perform it would throw light on the operation of etiquette and also on the ambivalence which characterizes the present day attitude toward it. A graceful introduction represents a happy compromise between the current ideal of personality and the dictates of good form.

Allowing for variations in poise and experience, it is almost possible to place a person socially by the way he performs an introduction. Again, this has been stereotyped by popular fiction and drama, but life continues to confirm their picture. If a man says, "Miss Smith, may I present Mr. Jones," he is on the upper crust—unless he has been "studying up," in which case he will probably give himself away sooner or later. If he says, "Miss Smith, meet Mr. Jones," he is lower down, and is incorrect not only in verbiage, but also in introducing the lady to the gentleman. For those who occupy the safe middle ground, free from social pretensions and at the same time above suspicion of belonging to the masses, Mrs. Emily Post describes the proper formula: the name of the person *to whom* the other is presented is pronounced first, on a rising inflection, as in the question, "Is it going to rain?" The name of the one presented is then pronounced with a falling inflection, as in "It is going to rain." In other words: "Miss Smith? Mr. Brown." Miss Smith represents the one who for reasons of sex, age, or eminence, is honored by having the other presented to her. To decide which of any two people should be considered Miss Smith is a nice problem demanding a social instinct, native or acquired, for its proper solution.

The nuances involved in this apparently simple form suggest why it may be difficult to carry off with *éclat*. "Pleased to meet you," is a response incorrect, but by no means so damning as the "meet Mr. Jones" formula. I overheard a very stately introduction in a cafeteria, where the gentleman said, "Pleased to meet you," and the lady with a stiff bow pronounced the single word, "Likewise." Her bearing left no doubt that she was attempting to imitate a "gentility" for which she had no verbal formula, and was therefore driven to improvise one. This brief interchange gave a clue not only to her social status, but also to her social pretensions. And it suggested that etiquette may become material for comedy—as well as for tragedy—when people aspire to a status above their own.

The attempt to change one's social status in a downward direction

is more rare, but not unknown, and here too etiquette serves as the livery of status. This livery must first be acquired in its proper cut and color, and then worn with the proper air—as suggested by the phrase “to the manner born,” and the meanings which have clustered about it. A defect in the livery or the wearing of it, especially a defect of overemphasis, often registers as affectation. This is usually interpreted as pretense to a social rank higher than that one has a right to claim, and rouses in the spectator either scorn or amusement, depending on his own social adjustment and his attitude toward the offender. When such pretension is actual, it is often betrayed by exaggerated or distorted imitation such as quirking the little finger in drinking tea. Frequently, however, one who is to the manner born, or habituated, may be wrongly accused of affectation by one who is not.

8. *Is There a System of Inter-Class Etiquette?* Yes, a very elaborate one. The manner of referring to one’s wife or husband varies with the relative status of the listener, and suggests the question of titles and forms of address in general, of precedence, etc. These questions are more numerous and obvious abroad, but figure to a certain extent in the United States also.

A large portion of inter-class etiquette is concerned with the relations of employer to employee, especially of master (or guest) to servant. Tipping has become partly a matter of etiquette, and it is etiquette as well as good manners to give orders in such a way that they are neither brusque nor apologetic. This branch of etiquette has become more complicated with the current tendency to superimpose personalities upon rules of behavior. Since individuals vary so much in the amount of stress they place on each, neither employer nor employee can be sure of the terms in which his actions will be received. For example, a certain type of “superior” may interpret as servility or as an attempt to curry favor an act which an underling performs as mere etiquette. Perhaps it is more frequent in American business life for the underling to refrain from treating his superior with too much courtesy for fear of having his action so interpreted. The fear of appearing servile by obvious politeness to those of higher station is to a degree a reaction against the previous rule, following the American cult of democratic attitudes and rugged individualism.

To a large extent, however, etiquette prevails over the "democratic attitude." In general it would seem to favor treating equals or superiors with elaborate consideration, and assuming that sensibilities decrease as one descends the social scale, so that, by the time you get down as far as the servant, it becomes right to treat the human being as a machine. Hence an error in estimating the sensibilities of an individual may be resented as relegating him to an inferior social position. This social scale of sensibility comes out in instances where what would be reciprocity between equals is modified or eliminated by social disparity, for example, in rewarding one who has saved life or returned a valued possession.

If a lady calls upon her charwoman who is ill, she does not expect that her call will be returned. Nor does etiquette require the return of a purely social call paid by an ex-cook to her former mistress. In these cases a number of factors combine to eliminate the reciprocity prescribed between equals. The formula for introductions also varies for individuals separated by a large social chasm.

If a guest is received at the door by his hostess, etiquette prescribes a manner of greeting her and disposing of his hat, gloves, coat, stick, very different from that to be employed if a servant admits him. The *faux pas* of greeting a footman like a person has been much exploited by comedy. In the case of a familiar family servant, however, good manners often prompt a violation of the rule against greeting servants in company, and usage generally condones this breach. In the cases just mentioned, etiquette is buttressed by the fact that the servant is on active duty. However, if a man meets his wife's laundress carrying a heavy wash-basket down the street, etiquette does not require him to relieve her of her burden as he should a woman of his own class. Good manners might prompt a gentleman to ignore the barrier raised by etiquette and assist the laundress. Again, that failure to observe certain amenities may be resented as an imputation of social inferiority points to a difference in observance toward different social classes, as does the reaction to an omission of forms which concede social superiority.

To conform to inter-class etiquette is sometimes described as "knowing one's place," a phrase which may be applied to the superior as well as to the inferior in a social situation. The degree and spirit of such conformity, on either level, give a significant clue to

the social adjustment and attitudes of the individual. Equally significant is the individual's reaction to the way others, on any social level, observe or defy the rules. (It is proverbial that servants may criticize masters for not "keeping their distance" as well as for being too "uppity," though this is less likely now than formerly.) Rigid observance of inter-class etiquette may serve to protect the dignity of the inferior as well as of the superior; it may also, through formalization, defend him from having to feel personally his underprivileged position. The effect of observance or violation, however, varies according to individual traits and techniques. "The dignity of labor" is often invoked in rationalizing one's attitude toward inter-class etiquette.

II. ETIQUETTE AS IT FUNCTIONS IN GENERAL EXPERIENCE

9. *What Are the Advantages, if Any, of Familiarity with the Etiquette of One's Group?* The chief advantage seems to be that if you know the rules of etiquette you don't have to think about them. If you wish to observe them you can do so with a minimum of effort; if you wish to ignore them, it can be done more serenely and more successfully if you know what you are ignoring. In either case, familiarity makes for social confidence and poise—hence for an ease of manner which is an asset in the social world, for its effect both on the individual and on others. Familiarity also prevents the commission of unintentional slights and even of the reverse, and enables the individual to manipulate certain situations, large or small, in a subtle and effective manner.

One's attitude toward etiquette is usually assumed to reflect his adjustment to his social environment and of the degree to which he is identified with it. This assumption, as well as the nature of etiquette itself, enables the individual to employ etiquette as a mask for his real attitudes and adjustment. Many people find it a great advantage to be able to screen their secret conflicts and emotions behind a façade of *savoir faire*, or by conforming to the manners of a group to pretend an identification they do not really feel.

People who suffer from generalized "anxiety" may find a spiritual crutch in the forms of etiquette, to which they therefore become emotionally attached. They find welcome support in the confidence they derive from their acquaintance with the social rules, and from

the mere fact that these rules exist as symbols of a social order with which they can identify themselves. Here, in contrast to the attitude described under No. 2, the forms which serve to relieve a situation of emotion themselves become the object of emotion. (This type of person may even find in criticizing another's breach of etiquette a convenient avenue for venting his unconscious protest against his own, perhaps unrecognized, weakness and a world in which he labors under a disadvantage.)

There is a somewhat similar reaction, based on group insecurity, perceptible among those who are attached to a social order actually or potentially on the wane, and who therefore place exaggerated emphasis on the forms which to them symbolize that order. Many stories dealing with the "Decayed Gentility" theme show individual and group insecurity collaborating to enforce a fanatical observance of etiquette. The proverbial Englishman dressing for his solitary dinner in the jungle illustrates the potency of the symbolism, and also the fact that to lean upon a system of etiquette may not be an unmitigated advantage; crutches are not always the best treatment for disabled members. (In the case of the Englishman, such factors as patriotism, prestige, fear of relaxing, may enter in; but these are not unrelated either to etiquette or to anxiety.)

10. *What Are the Disadvantages, if Any, of Familiarity with the Etiquette of One's Group?* I can think of none worth mentioning. If the familiarity has been gained at a great price, such as conflict and resentment during childhood, that would be a disadvantage connected with the familiarity but not resulting from it. If knowing what is expected imposes an undue burden of performance, the cause is apt to be not that the individual knows etiquette but that he doesn't know how to use it.

11. *What Are the Advantages, if Any, of Being Unfamiliar with the Etiquette of One's Group?* I think they would be only those a person might derive through unusual cleverness at playing a rôle—in this case, the unsophisticate. But such a person would be apt to do at least as well if his ignorance were only pretended, or if he chose another rôle. Otherwise, I think the advantages are swamped by the disadvantages.

12. *What Are the Penalties of Not Knowing Etiquette?* They

may be ludicrously slight or outrageously severe. Certain individuals suffer from fear and self-consciousness which they attribute to ignorance on the subject.² Others, through being spared that discomfort, suffer the consequences of giving offense, which may result in their being considered boorish and ill-bred, in their exclusion from a society they covet, in lack of worldly advancement. In either case, ignorance interferes with the functioning and well being of the individual. A person who is uncomfortable in society may be resented because he makes others uncomfortable. One who is serene in his ignorance may be resented by those whose sense of security is bound up with the "system" and who therefore feel hostile toward a person who acts as if its rules might be ignored, or even broken, with impunity—and who, by belittling what they reverence, also belittles them. (The same penalty, voluntarily incurred, is a very different matter.)

Ignorance may expose the individual to slights, real or imagined, and even to failures, which greater familiarity with the social code might eliminate. In fiction and in life, the tales of college students who have failed to make fraternities because they ate salad with the wrong fork, and of social climbers whose aspirations have been ruined by wearing the wrong costume are too numerous to need mention. Whether these things are important in themselves or not, they become so if they become a source of maladjustment. (And occasionally the stake may be greater.) It seems that the only way to escape the penalties is not to care, and the safest way of not caring is to be "in the know." It should perhaps be pointed out here that lack of training does not necessarily imply ignorance. A clever or sensitive person, not hampered by psychological obstructions, can acquire a working knowledge of etiquette adequate to most societies and most occasions.

13. *What Is the Significance of Violating Etiquette?* That de-

²It is impossible here to differentiate between an anxiety which chooses social awkwardness as its focus and a maladjustment actually due to ignorance of etiquette. Perhaps no complete distinction could be made, but certainly there would be a difference of emphasis. What etiquette means in the life of any individual depends upon his psychological make-up, which in turn depends upon his history. Since the functioning of etiquette depends so largely upon what people think and feel about it, it seems permissible in certain cases to deal with apparent causes as if they were real.

pend upon the cause of the violation, its magnitude, and the individuals or groups involved. If involuntary, the violation might be due to ignorance, error in estimating the situation, or lack of self-control. If deliberate, it might be the result of an attitude toward society, toward the particular canon involved, or toward the individual or group involved.

One effect of violation is to restore and intensify the personal element which observance tends to obviate—as when a breach due to ignorance is mistaken for a deliberate slight. If ignorance is recognized as the cause, a person who sets small store by etiquette is apt to excuse it, while one to whom etiquette is a serious matter will regard the ignorance as more heinous than the breach itself. If the offender is a foreigner, his ignorance may be excused, provided he is the right kind of foreigner.

(The etiquette of language is a subject in itself, and cannot be discussed here. In connection with the hierarchy of foreigners, however, it is interesting to note that mistakes in English are considered amusing, intriguing, or unpleasant, depending upon whether they are characteristic of a nationality held in high or low esteem by American society. Thus, popular opinion—at least in our larger cities—decrees that to pronounce the final *g* in such words as *singing* or *playing*, is a social calamity; to pronounce *th* as *d* is regrettable; to pronounce *th* as *z* is attractive; to pronounce short *e* as *ä*, and vice versa—i.e., to say *sax* for *sex*, *mat* for *met*, *esk* for *ask*—is horrid; to pronounce short *i* as *ee* is delightful, etc.)

Deliberate breach of etiquette is a weapon which, skilfully used, may be effective either in establishing one's attitude toward an individual or in asserting one's independence, defiance, sense of power. The more the witnesses are convinced that the individual "knows better," the greater is his chance of success.

Whatever the cause of violation, the reaction of those concerned depends largely on their own adjustment to society and their attitude toward the violator, is not necessarily in proportion to the offense, and might well differ from the response of people who merely heard about it. Since those emotionally identified with the system feel infringement as a personal affront, a menace to their security, they are apt to be upset even if the specific agent is wholly unimportant to them. On the other hand, people who care little

for etiquette in itself may take it hard if someone important in their personal scheme is negligent toward them.

It is possible for a violation of etiquette, deliberate or involuntary, to be effective as flattery. The movies make large use of such infractions on the part of the ardent hero who jostles the heroine in order to pick up an acquaintance by begging her pardon, or who commits the *faux pas* of speaking to her without an introduction. To issue an invitation before it is prescribed by the rules of polite society is also flattering to the recipient, especially if it is accompanied by acknowledgment of its irregularity. Hostesses of the lion-hunting type find this sort of flattery very helpful in their trade.

Among the most obvious types is the violation prompted by revolt, against the home or against society in general. Many college boys go through a period of systematic etiquette-flouting, especially if they have been brought up in very punctilious homes. I knew of one instance where a boy from the east side of New York, going to Harvard on a scholarship, became one of a group of young "aristocrats" in revolt. His personal slovenliness and somewhat crude manners were at a premium in this restricted group at this particular time. But the other boys passed through their revolt, and later found him *persona non grata*. Meanwhile he had missed a golden opportunity to acquire a bit of "background," and, not being particularly sensitive to etiquette, remains to this day brilliant but rather painfully unpolished, conscious of this, and apparently helpless about it.

A revolt against etiquette is often part of a generalized "revolt against society," including the political and economic as well as the social system. It is less apt to be an important part when the rebel's early training has instilled into him an easy acceptance of the forms, so that to violate them would require more of an effort than to conform. To make an issue of flouting etiquette is more natural in one who could not easily observe it, and may represent protest against his disability as well as against the principles involved. Nevertheless, a serious rebel who is to the manner born may feel called upon to take a stand against etiquette as a symbol of society. (In any case his attitude would be conditioned by his individual psychology and experience.)

This sort of deliberate violation arouses among conformists a

peculiar blend of serious antagonism and scornful amusement. Beneath such an attitude lies suspicion and fear of the motive for violation, mitigated by the perception—vaguely sensed or clearly recognized—that the rebel may succeed in giving vent to his disapproval of the existing regime by open warfare against its more trivial manifestations, thus satisfying on a comparatively innocuous plane his resentment and his desire to “*épater le bourgeois*.” This kind of sublimation makes things easier both for him and for society, but does not serve to enhance the prestige value of conspicuous unconventionality.

14. *Do You Consider It Inconsistent for an Individual Who Claims to Be a Non-Conformist (in Revolt against Society) to Observe the Dictates of Etiquette?* Not necessarily. It would, by definition, be inconsistent if he claimed to be a non-conformist in everything. But such a claim would be inconsistent to start out with. One who feels called upon to revolt against any and every convention, just because it is a convention, has no more independence than the one who slavishly conforms. The actions and reactions of both are imposed upon them by a set of patterns beyond their control. It is like the game in which the players must do just the opposite of what the leader commands: their actions are still governed by the leader. They can assert independence only by remaining free to obey or disobey at will.

Perhaps a distinction should be drawn between outer or logical consistency and inner consistency. The “unconventional” conservative would satisfy the first by saying that he accepts the convenience of etiquette as long as it proves to be convenient. The casual non-conformist might say the same thing and come nearer to satisfying inner consistency also. An affirmed rebel, accepting the same principle, might stop short before either of the other two. But whatever the superficial logic, he could without inner inconsistency observe certain of the forms prescribed by a system identified with all he opposes, and thus reserve his energies for what he considers most vital. That is, he may ignore the symbol in order to concentrate on what it symbolizes.³ The obvious pragmatic value of

³A separate treatment of symbolism, which has been mentioned occasionally and is implicit throughout, is beyond the scope of this tentative inquiry. It must suffice to remark that, in theory or in practice, etiquette may be re-

such a compromise, plus the "danger"—from his viewpoint—of sublimation pointed out in the last question, helps to explain why, although it may seem *logical* that the non-conformist should flout etiquette for the sake of flouting, in the act it is often judged somewhat silly and immature.

15. *Do You Consider a Rigid Observance of Forms of Etiquette Incompatible with Complete Personal Integrity (i.e., Sincerity)?* Not necessarily, though a statistical study might lead one to believe it so.

16. *Does an Objective Analysis of the Nature of Etiquette Necessarily Prevent the Analyzer from Enjoying a Sense of Security through Knowing and Conforming to It?* Not necessarily.

17. *Does Etiquette Hold, Regardless of Time, Place, and Circumstance?* No. In our society, to which these questions are confined, it is permissible to disregard etiquette at times of crisis or deep emotion. If a house is on fire, any stranger is at liberty to rescue its occupants without an introduction. Where the crisis is emotional rather than physical, it is permissible to disregard etiquette, though there are some who at such times cling to it. Popular war fiction bristled with scenes in which a parent received a telegram announcing the death of his favorite son, gulped, and said stonily to the messenger boy, "There is—no answer." This was keeping up a decorum which is part of etiquette (but which is more in the English pattern than in the American). Such stoicism, however, is felt to be more than even etiquette has the right to demand. It is considered evidence of great strength to observe etiquette under deep emotional stress. But it is considered evidence of great feeling to violate etiquette.

(The proverbial "women and children first" in shipwreck is an instance of etiquette-plus. It is the arch example of chivalry which has carried over to the modern age, and is a specific pattern so

garded as a symbol or as a thing in itself; that the same individual may, and usually does, attach different symbolic values to different forms, and that whether or not he regards the system or any of its forms as symbolic does not in itself determine or define his attitude toward it. To regard all or part of etiquette as symbolic may imply either emotional indifference or identification, depending partly on whether the symbolism is consciously perceived or is evolved unconsciously by a psychological need too deep and too imperious for full awareness or control.

familiar that when the proper stimulus appears, it goes into action. The same men who stand back on a sinking vessel might behave very differently in a burning theatre, partly for lack of the imperative tradition.)

18. *Do You Think That Etiquette Is Passed on Chiefly by Precept or by Example?* By example. Most people acquire the etiquette of their group without being conscious of the process; the amount that is deliberately taught is but a small fraction. It is when people change their groups, for whatever reason, that etiquette has to be learned—both the new, for purposes of adoption, and the old, in order to discard it. This is perhaps unfortunate, since an apparently instinctive knowledge is the mark of belonging to any group, and if the change is voluntary the individual is apt to desire above all things to appear as if he belonged and had done so from the beginning.

19. *Is It Possible for People to Conform to Etiquette without Realizing That They Are Doing So?* Yes, to a large extent. They may be unconscious of performing a stylized act, or else feel it merely as the social channel for an individual impulse. Most of us feel that when we shake hands we are performing an almost instinctive gesture. Moreover, as pointed out under other questions, many acts of etiquette are ascribed to some different category.

20. *Can Strict Observance of Etiquette Be Made a Tool to Inflict Pain or to Convey Insult?* It can, although as children we are taught that we must observe etiquette because it is the system by which politeness is expressed, and politeness is formalized consideration. The rules of etiquette may be employed to inflict pain or insult by disobeying them in a manner obviously deliberate: by *not* bowing to the gentleman who has tipped his hat, by not calling on the woman who has just come to town, etc. Here the end is achieved by violation rather than by observance. Such behavior can be most effective, but Mrs. Emily Post excludes the "cut direct" from her bible of etiquette on the grounds that it does not exist in etiquette.

To inflict pain or convey insult through *observance* of etiquette is a more subtle technique, but it can be done. To accept repeated introductions to the same person is a borderline case, being an observance which by repetition comes to resemble a violation. Many

women (and some men) are deeply pained by being shown the reverence due to age, and such consideration may be shown out of malice. One of the simplest methods is to treat with exquisite formality a person who might wish to occupy a position too intimate for such treatment. This may convey a denial that intimacy ever existed or a wish that it should cease—as when two friends who have quarreled begin to address each other by formal title. I have seen a very suave gentleman inflict torture on the mistress of whom he was tiring by meeting her passionate attempts at a “deeper understanding” with the blandest and emptiest forms of courtesy.

An incident observed on a Paris bus illustrates how formality may become a symbol of estrangement and therefore a cause of pain. A little boy was being very obstreperous and could not be subdued until his mother began addressing him as “vous” instead of “tu,” and calling him “Monsieur.” Immediately he melted from naughtiness to tears.

21. *Does Sex Have an Important Rôle in Etiquette?* So important that it would be reckless to attempt any full account of it. Many rules of etiquette are themselves determined by sex. Certain ones govern the relations of men to women, in which case the idea of chivalry plays a large part. In those which govern the behavior of women to men, modesty and coyness are accentuated (and stylized). The heterosexual rules of etiquette still represent attitudes which are no longer natural, if indeed they ever were. For dealings of men with men and women with women there are other and different codes, and still others for combinations of the groupings mentioned: the behavior of men toward the affairs of women-with-women, etc. In all these cases it is very difficult to distinguish etiquette from morals, fashions, etc.

The giving and receiving of attentions prescribed by etiquette may yield a modicum of sexual gratification. This occasionally becomes exaggerated, as in the case of certain celibate or elderly women who derive satisfaction and appeasement from the perfunctory masculine tribute to their femininity.

Naturally the changing relations of the sexes bring changes in etiquette, and also in attitudes toward canons of etiquette still unchanged. The “emancipation of women” has somewhat modified etiquette for and between women—at least the “emancipated” ones

—and has bred revolt on the part of both sexes against certain features of etiquette between men and women. Some men resent having to give women both the privileges of a weaker sex and the rights of an equal one. Some women resent the courtesies which seem to insist upon their need for protection. Thus, a tired man on a street car may furiously resign his seat to a woman who bitterly resents his sacrifice.

I think that in this matter both sexes experience an equal conflict between what their intellects have accepted and what their emotions are still unable to throw off. It is possible for each one at the same time to enjoy the attitude which prompts a man to give a woman his chair and to resent the act itself, while entertaining mingled amusement, affection, annoyance, regret, for the rule which prescribes the act and for the attitude embodied—or embalmed—in that rule.

A different aspect of sex in etiquette appears in the widespread assumption that women lay more stress on observance than men do. The freer atmosphere in the man's world—business, sports, club, smoking car, etc.—is cited in support of this assumption, and also as a reflection of masculine relief at escaping from the world of women and etiquette. Obviously, the truth of such a generalization would be extremely difficult to ascertain. Such exclusively masculine organizations as secret societies and lodges offer some conflicting evidence. Its chief interest, however, lies in the attitudes and implications behind its almost universal acceptance.

22. *Do You Feel That the Traditional System of Etiquette Is Breaking Down?* Yes, although I imagine it must always be breaking down and building up again, to conform with changing trends. If it seems to be breaking down faster now than at some periods, that may be partly because we live in this one, partly because all speeds are accelerated today, partly because of increasing interest in the individual as opposed to the group.

One reason why we may have the illusion of escaping from etiquette rather than merely changing its forms, is that we do not so readily recognize as forms the observances that are new enough to have vitality. The same person who recognizes as perfunctory his own behavior in connection with weddings, receptions, etc., may be unaware of the extent to which it is stylized in connection with a

cocktail party, the great collegiate pastime of "dating up a girl," football games, social weekends, etc., all of which are surrounded by an elaborate ritual some of which is not yet petrified enough for formal recognition, although definite enough to be apparent in the breach.

Granting all these qualifications, I do feel that the general attitude toward etiquette is changing, though not as much as is generally supposed. There seems a clearer realization now than formerly that etiquette differs in different places and periods, and in most circles a greater laxity toward violations of etiquette. The manual of etiquette, which seems to have been regarded formerly as a social bible familiar to all, is now an object of ridicule. Those who now read it, except for amusement, do so surreptitiously. Today it is assumed that social success depends more on personality than on an intimate knowledge of etiquette, and books on how to acquire an effective personality usurp the field formerly held by books telling what to do on all social occasions. That the change is far from complete is demonstrated by the importance of Mrs. Emily Post and various other arbiters of etiquette who dictate to a vast public through the radio, newspaper columns, and magazines. Even Mrs. Post, however, advocates subordinating hard and fast rules to charm and good sense.

There seems reason to believe that people are less willing now than formerly to admit taking etiquette seriously. (Perhaps they never did admit it as readily as we now suppose; yet the contrast between attitudes characterized as "old-fashioned" and as "modern" establishes the existence of some difference in this respect.) Today if people feel strongly on a point of etiquette, they are apt to interpret it in terms of some other value that is still sanctioned—unless they are social climbers, in which case etiquette itself becomes serious as the key to membership in the in-group. Even Dolly Gann waged her famous battle on the basis of her rights, as established by etiquette.

To an extent it has always worked this way. The courtiers who allowed a Spanish queen's life to be endangered rather than transgress court etiquette, did so in the name of the sanctity of the queen's person, and the Spanish king who accepted death for the sake of etiquette felt that he was upholding the divine right of kings over

fires.⁴ In matters of court ceremonial, tradition can be invoked as sanction for observing what may appear to be irrational forms of etiquette. In such disputes, it would be the person arguing in cold blood who would characterize the form as mere etiquette, while the one emotionally involved would insist that something deeper was concerned. Thus, a "member of the old school" advocating observance would invoke tradition, honor, etc., while his disputant would say, "Pooh, it's only a matter of form." On the other hand, an iconoclast would inveigh against observance on the ground of what it symbolizes, while the conservative would say, "Oh pshaw, it isn't worth revolting against—a mere matter of form."

That in America today it is the rebels rather than the conservatives who are apt to admit a serious and intense interest in forms of etiquette, may well be symptomatic of a breakdown in the system. It must be significant that the current ideal prescribes shrugging one's shoulders at etiquette—regardless of the extent to which that ideal is actualized. This does not mean that we have grown less conventional, but rather that we may be changing one set of conventions for another, and that the new set may fall under a somewhat different category.

23. (a) *Is There a Family Etiquette?* (b) *If So, What Has Been Your Experience with It?* (a) I think there may be two, one more and one less elaborate than the general system; and that both may operate in the same family. Some families build up a private code of etiquette which must be observed between certain members on all or on stated occasions. At the same time there may be a dual

⁴These two tales, which may be legendary, nevertheless illustrate one aspect of etiquette. A Spanish queen, while riding, lost a stirrup and slipped from the saddle so that she dangled by one foot. Since it was forbidden to touch her, all the courtiers stood around in impotent distress until a passer-by, unacquainted with court etiquette, committed the indiscretion of rescuing her. He was rewarded for his service by a large number of dubloons, and was then banished for his temerity in laying hands on the queen.

The Spanish king was sitting near the fire one day and found it uncomfortably hot. The official regulator of the royal blaze was not on duty at the time so nothing could be done about it. But it was beneath the king's dignity to move because of a mere fire, so he sat and suffered. As a result of his scorching, he contracted a skin disease of which he finally died.

standard of etiquette as suggested by the phrase "company manners." It is, of course, impossible to treat outsiders exactly as one treats his own family, if only because one sees so much less of them.

I have noticed that in families whose members employ toward each other those forms of etiquette commonly reserved for strangers, the ultimate degree of intimacy is lacking, and that certain members seem to cultivate this formality for the sake of protecting their own privacy. Some adolescents become elaborately polite to their parents in order to set up a barrier against burdensome intimacy and achieve a longed-for privacy. The motivation here is different from that behind the same mechanism as described under No. 20, but this de-personalizing of relations is apt to hurt the parents, just as in another sort of home children may be hurt by a formality on the part of the parents which prevents such intimacy from ever developing.

The significance of observance or non-observance of etiquette between intimates and relatives is suggested by the innumerable plays, stories, and jokes which touch upon the problem, and have conventionalized it to a point where it is hard to disentangle real feelings from stock phrases and quips. The jokes and heart stories about the change in observance of etiquette before and after marriage, for example, have undoubtedly colored the experience of many brides and grooms. Another aspect of "familiar etiquette" is the consciousness of individuals, especially young people, that the manners of their families do not correspond with those of the social group in which they desire membership. The disparity may be regarded as comic or tragic, but in either case its seriousness is evident, and it is often pictured—accurately enough—as a cause of painful maladjustment. Tarkington's *Alice Adams* is one novel centering about this conflict.

Intimacy between friends or relatives may be enhanced by a judicious mixture of observance and non-observance, the cultivation of which is part of the art of human relations.

III. ETIQUETTE IN THE EXPERIENCE OF THE INFORMANT

24. *What Is Your Habitual Response to Etiquette?* (When the concept arises in passing, rather than your studied reaction or your response to a concrete situation?)

25. *What Is Your Attitude Toward Etiquette in Connection with Your Own Behavior?*

26. *Do You Accept Certain Rules of Etiquette Naïvely, as Natural Rather Than Arbitrary?*

27. *Are You Sensitive to the Neglect of Certain Observances?*

28. *Have You Reactions against the Observance of Certain Rules?*

29. *Are You Personally Conscious of the Play of Sex in the Functioning of Etiquette?*

30. *Can You Remember Your Introduction to the Concept of Etiquette, Your Earliest Reactions to It, and Any Attendant Circumstances?*

31. *Were You Instructed in the Forms of Etiquette As a Child, and What Was Your Reaction to the Instruction or the Lack of It, at the Time and Later?*

32. *What Formula, If Any, Was Employed for Teaching You Etiquette?* (I.e., were you told, "You must do this because it is proper, because it is done by the best people, because it is incorrect not to do it"—or was some other reason assigned?)

33. *What Were Your School Experiences in Connection with Etiquette?*

34. *Have You at Any Time Been Very Conscious of the Manners of Your Family and Their Way of Coping with Etiquette?*

35. *Have You at Any Time (Momentarily or Over a Period) Been Very Conscious of Your Own Manners and Way of Coping with Etiquette?*

36. *Can You Cite Definite Instances in Which You Have:*

(a) Conformed to etiquette while violently objecting?

(b) Insisted on conforming despite opposition?

(c) Refused to conform because of intense feeling?

(d) Entertained intense feelings about the conformity of another?

(e) Entertained intense feelings about the non-conformity of another?

37. *Can You Cite Instances in Which You Experienced Embarrassment, Discomfort, Difficulty:*

(a) Through conforming?

(b) Through not conforming?

(c) Because another conformed?

(d) Because another did not conform?

38. *Do You Think That Observance or Non-Observance of Etiquette May Influence Your Initial Judgment of a Person? Can You Cite Instances? Can You Cite Instances Where Observance or Non-Observance Has Changed Your Initial Judgment?*

39. *Can You Cite Any Instances Where Your Own Observance or Non-Observance Has Seemed to Influence the Reaction of Others to You?*

40. *What Are (Briefly Summarized) the Things That Seem to You Most Important about Etiquette?* Etiquette is the expression of social relations, and is to be found—more or less elaborated—in every society. It is formal rather than functional in nature. A pattern of etiquette exists because it is approved by the approved group. It requires no further sanction. Etiquette does not look beneath the surface nor inquire into motives, but accepts the deed for the will; it does not make a virtue of the “sincerity” usually esteemed “right” in behavior. One who does not “believe in” it may profit by conforming to it, without derogation or self-accusation. Actually, the behavior of most people conflicts with their theories about etiquette. They may or may not know this. In general, those who know are less apt to care and those who care are less apt to know. But even those most aware of the disparity might be startled by an objective comparison of their behavior in connection with etiquette, and what they think they believe about it.

For the group, etiquette serves the function of habit for the individual. For the individual, it may be a crutch, a tool, a weapon, a badge, a source of pain, depending upon his relations to life. It provides a fictive world in which he may act for pleasure, profit, or because of a deep-rooted need. It may help him to preserve, convey, or even partially to realize certain cherished illusions about himself, such as that he is socially secure, well adjusted, realistic, unconventional. It permits him to disclaim emotional participation in certain routine situations, and equips him with a formula which he may offer in lieu of real feeling for special occasions, such as weddings or funerals. It does this by stereotyping relations and situations, thus relieving them of emotional significance. Violation

of etiquette (refusal or inability to "play the game") tends to restore and intensify the affective element drained off by observance.

The freedom from emotional responsibility which etiquette grants in certain situations may be extended to cover the system itself. On the other hand, the affective values disposed of by etiquette may reappear as, or be replaced by, emotion attaching to the system or some of its forms. Such transference or replacement is facilitated by the tendency of etiquette to merge with or be masked by other categories of behavior which carry a higher or deeper sanction in our society; all these processes are expedited by the individual's powers of rationalization. Because of these factors, and also because usage has made certain forms seem "natural," it is possible to observe etiquette without realizing that one does so.

Etiquette is a great conservative force and is in turn supported by all the forces that make for conservatism and balance. (Thus, as symbol and as fact, it is "good" or "bad" according to the observer's point of view.) It is as intimately bound up with the "adjustment" (stability, tone, trend) of society as with that of the individual.

This questionnaire is offered as suggestive, rather than in any sense exhaustive. I have not included certain questions which might well be considered. That of symbolism has been mentioned, as has the etiquette of language. Other subjects which invite discussion are: the etiquette of laughter, the relation of humor to etiquette, whether animals have etiquette. A more extended consideration of professional etiquette might be valuable, including law, medicine, the various arts and their criticism. Trade etiquette might also be dealt with, and such related branches as the etiquette of bootleggers, hoboes, criminals, etc.

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UN QUESTIONNAIRE SUR L'ÉTIQUETTE

(Résumé)

Ces questions, données avec les réponses de l'auteur, considèrent: A. La nature de l'étiquette; B. L'étiquette dans l'expérience générale (dans la société connue à l'informateur); C. L'étiquette dans l'expérience de l'informateur. Les réponses supposent que l'étiquette exprime, et évalue, les relations sociales—vraies ou fictives—et est naturelle dans toute société. Elle n'exige nulle autre sanction que l'approbation du groupe approuvé. Elle ne fait aucune vertu de "la sincérité," puisqu'une disparité entre la croyance et la pratique est une de ses caractéristiques.

Pour le groupe, l'étiquette sert la fonction de l'habitude pour l'individu. Pour l'individu c'est un cachet, un outil, et, dépendant de ses relations à la vie peut être aussi une béquille, une arme, une source de douleur. Elle tend à stéréotyper les relations et les situations, en leur dérobant ainsi leur signification émotive, qui, cependant, peut se montrer de nouveau comme émotion attachée au système ou à quelques-unes de ses formes. Ce transfert est facilité par la tendance de l'étiquette à se mêler avec d'autres catégories du comportement qui portent une plus haute sanction.

L'étiquette est une grande force conservatrice, soutenue à sa tour par toutes les forces qui encouragent le conservatisme. Elle est intimement liée à "l'ajustement" de l'individu et de la société.

HERZOG

EINE ENQUETE ÜBER DIE ETIKETTE

(Referat)

Diese Fragen, die zusammen mit den Antworten von der Verfasserin gegeben wurden, betreffen: A. die Natur der Etikette; B. die Etikette in der allgemeinen Erfahrung (in der Gesellschaft, die dem Angeber bekannt ist); C. die Etikette in der Erfahrung des Angebers. Die Antworten setzen voraus, dass die Etikette soziale Verhältnisse (wirkliche oder erdichtete) ausdrückt und abstuft, und sie wird in jeder Gesellschaft erwartet. Sie erfordert keine weitere Genehmigung als die Billigung der Gruppe. Sie macht keine Tugend aus Aufrichtigkeit, da eine Verschiedenheit zwischen Glauben und Praxis eins ihrer Merkmale ist.

Für die Gruppe dient die Etikette der Funktion einer Gewohnheit bei dem Individuum. Für das Individuum ist sie ein Kennzeichen, ein Werkzeug, oder ganz von seinen Lebensverhältnissen abhängig, darf auch eine Krücke, eine Waffe, eine Quelle des Schmerzes sein. Sie neigt zu stereotypen Verhältnissen und Situationen, dadurch befreit sie sie von der emotionalen Bedeutung, die aber als Emotion wieder erscheinen mag, die dem System oder einigen seiner Formen anhaftet, die eine höhere Genehmigung trägt.

Die Etikette ist eine konservative Kraft, die ihrerseits durch alle Kräfte unterstützt wird, die Konservatismus ausmachen. Sie ist eng mit der "Anpassung" des Individuums und der Gesellschaft verbunden.

HERZOG

THE EFFECTS OF PERSONAL HETEROSUGGESTION AND TWO FORMS OF AUTOSUGGESTION UPON POSTURAL MOVEMENT*

From the Laboratory of Psychology of Stanford University

JOEL V. BERREMAN AND ERNEST R. HILGARD

Postural movements such as swaying forward or backward while standing blindfolded may be induced by the commands of another person (direct personal heterosuggestion), by suggestions spoken aloud to himself by the subject (verbal autosuggestion), or by the subject's imagining himself to be falling (subvocal or imaginal autosuggestion). This investigation is concerned with the relative efficacy of these three types of suggestion, as measured by the postural responses accompanying them.¹ Since responses to suggestion depend to some extent upon the acceptance by the subject of the commands of the experimenter, it was of interest to determine whether or not there was greater or less readiness to respond to self-given commands. An attempt has been made also to relate suggestibility in terms of postural responses to intelligence test scores, and to individual differences in the ease of formation of conditioned responses.

PROCEDURE

Records of postural sway were secured kymographically by means of a modified form of Hull's postural movement recorder (4). A thread attached to the clothing of the blindfolded subject activated a marker, giving an accurate record of the forward and backward displacements of the subject's body. Instead of attaching the thread to the collar and correcting for height, as Hull has done, we at-

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¹The problem has been stated by Hull as No. 5 in a list of 40 projects for the study of waking suggestion (4). The investigation obviously owes much to Professor Hull for the attention which he has directed to the phenomena of waking suggestion, and for the techniques which he devised for experimentation in the field, although he had no personal contact with this study.

tached the thread to the clothing at a constant height of 4 feet 10 inches from the floor, and made no corrections. Differences in the elasticity of clothing introduced slight errors, but the thread was taut at all times, and these errors are inconsiderable. For the reading of the records an instrument similar in principle to Hull's oscillometer (5) was constructed. When the oscillations of the experimental period (in centimeters of sway per unit of time) are compared with those of the control period, a measure is secured of the increase or decrease in steadiness accompanying suggestion. This measure we have termed the *oscillation increase*, negative values indicating a decrease in oscillations with suggestion. A second reading of the records was made in order to determine the average amount by which the subject leaned forward (or backward) during the period of suggestion. This reading, called the *average displacement*, was secured by means of a planimeter. The mean displacement from an arbitrary base line was determined for both control and experimental periods. The difference between these two readings gave the amount of displacement from normal which accompanied suggestion. This measure was substituted for the amplitude readings adopted by Hull and his students in order to avoid an over-emphasis on chance values for maximum amplitude, and in order to avoid the ambiguity of an undistributed maximum occasioned by those subjects who respond maximally and lose their balance. Although there seems to be no fully satisfactory way of dealing with amplitude values for those who tend to fall, it was decided to restore the balance of those who swayed beyond 15 cm., and to continue the suggestions for a constant time for all. This means that for some subjects there are two or more maximum points within the two-minute period of suggestion.

The three forms of suggestion, used with all subjects in varying orders, were as follows.

A. *Personal Heterosuggestion*. The experimenter (J. V. B.) repeated a series of suggestions to the effect that the subject was falling forward. The words used were adapted from Hull (6, pp. 50 f.).

B. *Verbal Autosuggestion*. The subject was instructed to repeat aloud a series of suggestions to himself that he was falling forward.

His instructions included a few specimen phrases, but he was told that the exact words did not matter.

C. *Subvocal or Imaginational Autosuggestion.* The subject was told to imagine that he was leaning so far forward that he was about to fall, to make the imagination as vivid as possible, but not to say any words.

Each subject was given each test twice, the six tests being arranged in a predetermined order. Three orders were used with different subjects. There were 30 subjects in all (sophomores, juniors, seniors, and graduate students), so that ten subjects served in each of the orders, as follows.

- I. A B C - C B A
- II. B C A - A C B
- III. C A B - B A C

Upon admission to the experimental room the subject was asked to be seated while the following general instructions were read to him.

This is an experiment to determine the amount of your normal postural sway under different conditions, and with several kinds of suggestion. You will simply stand here where I am now, in a perfectly normal and comfortable position. Part of the time I will tell you that you are falling one way or another. Sometimes I will want you to tell yourself so aloud, and at another time I will instruct you to imagine that you are falling over. In any of these cases you are simply to stand comfortably all of the time. Do not make any effort to move, and do not make any effort to keep from doing so. Just stand quietly where you are.

Following the above instructions, the subject was placed in position and blindfolded. A 40-second control period preceded two minutes of suggestions. A recovery period of 40 seconds was allowed after the termination of the suggestions, and then the blindfold was removed and the subject seated. A rest of from two to three minutes intervened between the first and second tests, and between the second and third; there was a longer rest (five to ten minutes) between the first and second cycle of three tests. The six tests, involving each form of suggestion twice, were completed within

one experimental period. The supplementary instructions required by the individual forms of suggestion were read to the subject during the rest periods, while he was seated.

RESPONSES TO THE THREE FORMS OF SUGGESTION

A summary of the responses of the 30 subjects to the three forms of suggestion is given in Table 1. The data indicate no significant

TABLE 1
POSTURAL RESPONSES TO THREE FORMS OF SUGGESTION (30 SUBJECTS)

	Oscillation increase Difference between control and experi- mental period in cm. of postural swaying per 10 seconds	Average displacement Divergence from normal standing position during ex- perimental period, in cm.
Responses to different forms of suggestion (Mean and PE_M)		
A. Personal heterosuggestion	$1.57 \pm .35$	$2.16 \pm .36$
B. Verbal autosuggestion	$1.40 \pm .35$	$2.74 \pm .46$
C. Subvocal autosuggestion	$1.60 \pm .34$	$2.67 \pm .35$
Correlation between responses to different forms of suggestion (r and PE_r)		
A with B	$+.83 \pm .04$	$+.84 \pm .04$
A with C	$+.75 \pm .05$	$+.64 \pm .07$
B with C	$+.93 \pm .02$	$+.71 \pm .06$
Differences in mean response (Difference and PE_D)		
A minus B	$+.17 \pm .38$	$-.58 \pm .45$
A minus C	$-.03 \pm .39$	$-.51 \pm .41$
B minus C	$-.20 \pm .36$	$+.07 \pm .47$
Critical ratios of differences (D/PE_D)		
A minus B	0.45	1.29
A minus C	0.08	1.24
B minus C	0.56	0.15

differences between responses to the three forms of suggestion. None of the mean values for responses under the two forms of autosuggestion differs by a reliable amount from the responses to direct personal heterosuggestion. There is no consistency in the direction of the slight differences obtained. The intercorrelations between the responses under the different forms of suggestion are suffi-

ciently high ($+.64$ to $+.93$) to indicate that something in common to the three tests is being reliably measured; what they have in common is undoubtedly more significant than their differences.

Although determined from identical records, the correspondence between the two measures of response (oscillation increase and average displacement) is not as high as that obtained from one of these measures applied to separate tests. The coefficient of correlation obtained between each subject's average oscillation increase and his average displacement was found to be $+.55 \pm .09$, indicating only a moderate relationship. The altered swaying following suggestions is influenced by the amount of postural displacement, but it is not the same response, and it is possible for a subject to be high on one measure and low on the other.

While these results confirm the earlier findings of Baumgartner (2) and Baernstein (1) with regard to the intercorrelation between heterosuggestion and autosuggestion, it would be unwise to assume that there are no differences between the two forms.

Apparently trained experimenters attain a certain skill in timing their suggestions to emphasize slight tendencies toward movement on the part of the subjects, and hence to secure a larger percentage of maximal responses. It would be of interest to know just how much difference the experimenter makes; Hull's use of a phonograph record to give suggestions shows that suggestions need not be adapted to the particular subject in order to secure responses. Different operators might produce a difference in average effect between heterosuggestion and autosuggestion; evidence to date shows simply that the responses to the several types of suggestion are highly correlated, and that the average amount of response is of the same order under the three conditions studied.

EFFECT OF PRACTICE ON RESPONSES TO SUGGESTION

Responses increased during the successive tests, regardless of the sequence in which heterosuggestion and the two forms of autosuggestion appeared. The effects of practice are indicated quantitatively in Table 2. There is a tendency towards increased response through the first five periods, with a drop in the sixth. The increased oscillations with repetition are not a fatigue phenomenon, because the increase is in difference of suggestion period over control. Examina-

TABLE 2
EFFECT OF PRACTICE ON RESPONSES TO SUGGESTION (30 SUBJECTS)

Order of tests, irrespective of form of suggestion	Responses to suggestion in successive tests	
	Oscillation increase (cm. per 10 sec.)	Average displacement (cm.)
	Mean and PE_M	Mean and PE_M
1	.23 $\pm$.19	1.82 $\pm$.32
2	1.13 $\pm$.35	2.71 $\pm$.40
3	1.67 $\pm$.41	2.79 $\pm$.61
4	1.47 $\pm$.35	2.75 $\pm$.47
5	2.37 $\pm$.50	3.01 $\pm$.45
6	1.87 $\pm$.42	2.58 $\pm$.45

tion of the control periods reveals progressive decrease in the amount of oscillation.

Enough subjects showed slight negativism during the first test for it to be of interest to chart separately the practice effect for those initially positive and those initially negative. If negativism were

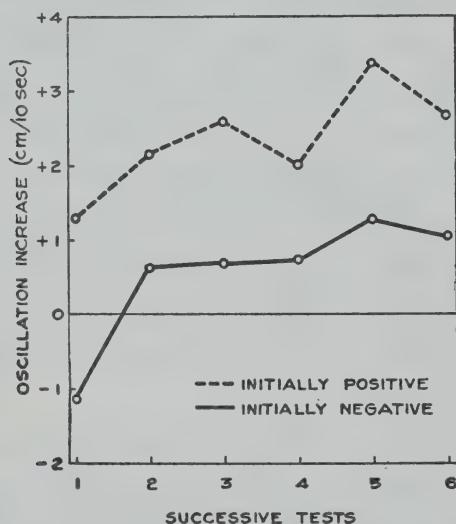


FIGURE 1

EFFECT OF PRACTICE ON POSTURAL OSCILLATIONS FOLLOWING SUGGESTION

The subjects are divided into two groups, one of which (14 subjects) responds to the first period of suggestion by reduced oscillation. The other group (16 subjects) shows increased oscillation throughout. Both groups increase in positive responsiveness with repetition of the tests.

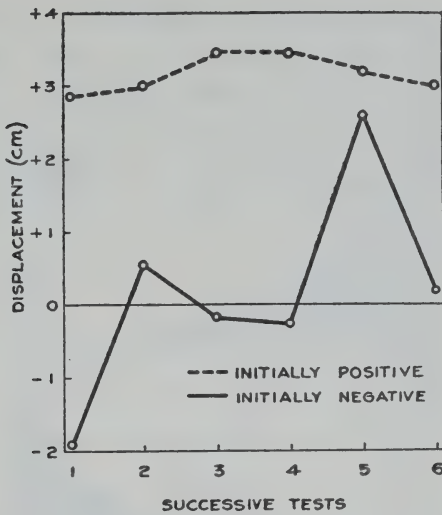


FIGURE 2

EFFECT OF PRACTICE ON POSTURAL DISPLACEMENTS FOLLOWING SUGGESTION

The subjects are divided into two groups, the first of which (six subjects) responds to the initial series of suggestions by leaning backward instead of forward. The other 24 subjects respond positively in the first test. All responses tend to become increasingly positive with practice.

a trait complementary to and incompatible with positive suggestibility, one might expect increased negativism with practice. The resulting analyses are plotted in Figure 1 and Figure 2. All subjects show an increase in the direction of positive response with practice; in no case does negative response become consistently more negative with practice. These results indicate that such negativism as is revealed in these experiments behaves similarly to the transitory initial negativism described by Hull. Such negativism was emphasized by suggestible subjects instructed to resist suggestions, although their responses, in spite of resistance, presently became positive (6, p. 55). Whether negativism is manifested within a single test as a latent period before positive response, or whether it persists through several tests, it is not a personality trait possessed to the exclusion of positive suggestibility, for in the end all of the subjects respond positively.

INDIVIDUAL DIFFERENCES IN RESPONSES TO SUGGESTION

Wide individual differences in responses appear whenever tests of suggestibility are given to a number of subjects. The average responses of each of the 30 subjects are charted in terms of the oscillation measure in Figure 3 and in terms of displacement from the normal standing position in Figure 4. Subjects are arranged for

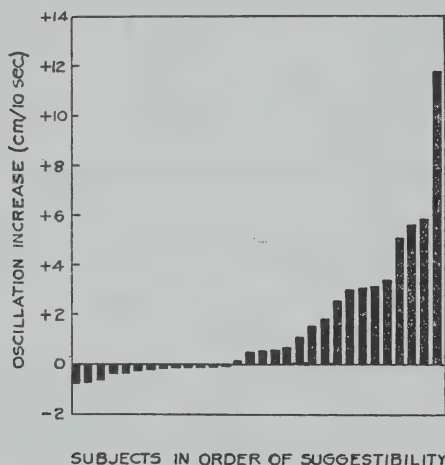


FIGURE 3

DISTRIBUTION OF SUGGESTIBILITY IN TERMS OF OSCILLATION INCREASES

The subjects are arranged in the order of average response on six tests under the three forms of suggestion. Each bar represents the responses of one subject. Note the small amplitude of the negative responses as compared with the more extreme positive responses.

this purpose in order of magnitude of response. Most subjects respond slightly, with only a few extremely suggestible. While there are many subjects showing reduced oscillation during suggestion (negative values in Figure 3), and a few showing negative postural displacement (Figure 4), the size of negative responses is consistently small. Except for the negative values, the distribution is similar to that reported by Hull (6, p. 66) from Life's data. The negative cases are less prominent than in Landis' study of delinquent girls (7). Extremely negative cases by this test are absent, or very rare, among college students.²

²The skewed distributions of postural responses under the suggestion of falling forward are in part a result of the mechanical asymmetry of move-

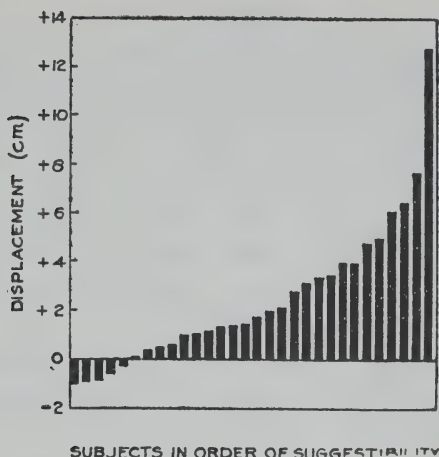


FIGURE 4

DISTRIBUTION OF SUGGESTIBILITY IN TERMS OF POSTURAL DISPLACEMENT

The subjects are arranged in order of average response as in Figure 3. Fewer cases yield average negative responses in terms of displacement than in terms of oscillation increase.

Scores were available for 28 of the 30 subjects on the Thorndike intelligence examination, and 19 of the subjects had participated in a conditioned eyelid-reaction experiment in which measures of individual differences were secured (3). The correlations between these measures and suggestibility scores are given in Table 3. All correlations are too low to be of significance.

It seemed a plausible hypothesis that responses in a conditioning experiment might be related to suggestibility. The lack of correlation in this preliminary comparison is by no means final, but it discourages the hope of finding a high relationship. Subjects whose

ments forward and backward. The range of positive responses (forward) before loss of balance is greater than the range of negative responses (backward), and the subject makes corrections for negative displacements earlier than for positive ones. This difficulty is inherent in all of the published distributions using the falling-forward technique. It is not entirely obviated in the arm-movement suggestion which Hull also studied (6, p. 57), for movements of the arm forward and backward when it is extended at the level of the shoulder are not mechanically equivalent.

TABLE 3
CORRELATION BETWEEN SUGGESTION, INTELLIGENCE, AND CONDITIONING

	Correlation with oscillation increase			Correlation with average displacement		
	<i>n</i>	<i>r</i>	PE _r	<i>n</i>	<i>r</i>	PE _r
Scores on Thorndike examination	28	+.09	±.13	28	+.21	±.12
Amplitude of conditioned eyelid reactions	19	— .25	±.14	19	— .05	±.16
Frequency of conditioned eyelid reactions	19	— .17	±.15	19	+.17	±.15

conditioning by several criteria varied from the very least to the greatest in the group fell together in the lowest bracket of response to suggestion.

SUMMARY

1. The postural responses of 30 university students were studied under three forms of the suggestion that the blindfolded subject was falling forward: direct personal heterosuggestion, verbal auto-suggestion, and subvocal or imaginal autosuggestion. Two measures of response were used: the increase in oscillation during the suggestion period over the control period, and the average displacement from the normal standing position during the period of suggestion.

2. No significant differences were obtained between the responses under the three types of suggestion. Imagined falling resulted in responses highly correlated with those which occurred when the subject spoke suggestions aloud to himself, or received suggestions from the experimenter.

3. Practice results in increase in positive responses. Subjects initially yielding negative scores, tended to show positive responses in later tests.

4. No significant relationship was found to exist between suggestibility, as measured by postural responses, and scores on the Thorndike intelligence examination, and between suggestibility and ease of formation of conditioned eyelid reactions.

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LES EFFETS DE L'HÉTÉROSUGGESTION PERSONNELLE ET DE DEUX FORMES DE L'AUTOSUGGESTION SUR LE MOUVEMENT POSTURAL

(Résumé)

On a étudié les mouvements posturaux de 30 étudiants universitaires sous trois formes de la suggestion que le sujet, les yeux bandés, tombait en avant: l'hétérosuggestion personnelle directe, l'autosuggestion verbale, et l'autosuggestion subvocale ou imaginative. On n'a obtenu aucunes différences significantes entre les réponses sous les trois formes de suggestion. L'exercice a cédé plus de réponses positives; les sujets donnant d'abord des résultats négatifs ont tendu à montrer des réponses positives dans les tests subséquents. Nulle relation ne s'est montrée ni entre la suggestibilité mesurée par les réponses posturales et les résultats du test d'intelligence de Thorndike, ni entre la suggestibilité et la facilité de la formation des réactions conditionnelles des paupières.

BERREMAN ET HILGARD

DIE WIRKUNGEN DER PERSÖNLICHEN SUGGESTION VON AN- DEREN UND ZWEI FORMEN DER SELBSTSUGGESTION AUF DIE HALTUNGSBEWEGUNG

(Referat)

Die Haltungsbewegungen von 30 Universitätsstudenten wurden unter drei Formen der Suggestion untersucht: direkte persönliche Suggestion von anderen, wörtliche Selbstsuggestion, und unterwörtliche oder eingebildete

Selbstsuggestion. Keine bedeutsamen Unterschiede wurden zwischen den Reaktionen unter den drei Formen der Suggestion erhalten. Übung ergab vermehrte positive Reaktionen; diejenigen Vpn., die ursprünglich negative Werte gaben, zeigten die Neigung bei späteren Tests positive Reaktionen zu geben. Kein Verhältnis bestand zwischen der Suggestibilität, wie sie durch die Haltungsreaktionen gemessen wurde, und den Werten von der Thorndike Intelligenzuntersuchung, und zwischen der Suggestibilität und der Leichtigkeit der Bildung bedingter Augenlidreaktionen.

BERREMAN UND HILGARD

INTELLIGENCE LEVEL AND PERSONALITY*

From Stanford University, California

C. GILBERT WRENN, LEONARD W. FERGUSON, AND
JOHN L. KENNEDY¹

This article presents data regarding differences in personality characteristics of two groups of students widely separated as to intelligence test scores. No evidence was found of any relationship between level of ability on an intelligence test and the "traits" of introversion-extroversion and emotional stability. The traits of self-sufficiency and dominance, however, were found to vary considerably in strength with level of intelligence test ability, although the former trait varied positively and the latter one negatively. Some attempt is made by the writers to interpret these relationships.

Two definitions are first needed as a matter of preliminary analysis, one involving a description of the high and low intelligence test groups, and one covering the personality traits studied.

THE CRITERION GROUPS

The groups to be studied were selected from the extremes of the intelligence test scores of 9990 junior college students, most of whom resided in California. Certain data were secured from these students in 1929 (3), including their scores on the *American Council on Education Psychological Examination* (1928 ed.). The distribution of the intelligence scores of these 10,000 students closely resembled a normal curve of distribution. The average score of the 6279 freshmen of this group fell at 137.5, while the mean score of the 30,653 freshmen of the 1928 national norms of this test was 140.6.

The two extremes in intelligence scores were selected from this apparently representative distribution of intelligence test scores of

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¹The study was outlined and the data collected by the senior author. The two junior authors performed some of the statistical work and analyzed the data secured from the women students.

junior college students. A total of 324 men and women students who had *Psychological Examination* scores in the *upper five per cent* of the total distribution and 240 students having scores in the *lower 15 per cent* of the distribution was successfully reached in 1931 for the desired additional data² (4, 5). The average test score of the superior group of men students, the men forming the primary group for study, was at the 97th percentile of the national norms, while the mean test score of the inferior group of men was at the eighth percentile of the national norms. The extreme scores of the two groups were separated by 77 per cent of the total distribution.³

MEASUREMENT OF PERSONALITY "TRAITS"

The personality characteristics which were chosen for study were the "traits" which the Bernreuter *Personality Inventory* attempts to measure. The inventory is a self-rating blank upon which a subject records his attitudes toward a variety of different situations and concepts. The inventory attempts to measure neurotic tendency, self-sufficiency, introversion-extroversion, and social dominance, although it is not clear just how many "traits" it does measure. It was constructed upon the theory that a single response to one situation or concept is symptomatic of the degree of possession of several personality "traits." No indication was given to the subject of the nature of the traits being measured.

In order to clarify the meaning of the above "trait" names it may be well to indicate what the author of the inventory intended to convey by the use of these concepts. A high score on the Neurotic scale was taken to mean emotional instability. Persons scoring high on the Self-Sufficiency scale "prefer to be alone, rarely ask for sympathy or encouragement, and tend to ignore the advice of others. Those scoring low dislike solitude and often seek advice and encouragement." On the Introversion-Extroversion scale persons scoring high "tend to be introverted; that is, they are imaginative and

²The data collected included scores on the Bernreuter *Personality Inventory*, ratings on the Strong *Vocational Interest Test*, and information on educational and vocational histories.

³Of the 324 students in the upper group, 195 were men students and 129 were women students, while the 240 students in the lower group were composed of 157 men and 83 women.

tend to live within themselves . . . Those scoring low rarely worry, seldom suffer emotional upsets, and rarely substitute day dreaming for action." Persons scoring high on the Dominance scale "tend to dominate others in face-to-face situations."

Validity coefficients for the various scales were computed by Bernreuter by correlating the scores on each scale with a previously standardized test which supposedly measured the function in question. The present writers hold no brief, however, for the sufficiency of these "validity" coefficients. Bernreuter reported odd-even reliability coefficients of $+.88$, $+.85$, $+.88$, and $+.85$ for the Neurotic Self-Sufficiency, Introversion-Extroversion, and Dominance scales, respectively (1).

DIFFERENCES BETWEEN THE CRITERION GROUPS ON THE NEUROTIC AND INTROVERSION SCALES

As can be seen by reference to Table 1, there is practically no difference between the two groups in their neurotic scores. This is true for both men and women. The critical ratios (D/PE of D) of $.8$ and $.6$ are negligible. This does not necessarily mean, however, that there is no relationship between intelligence and emotional instability. These low critical ratios simply indicate that this group of junior college students of inferior intelligence (as measured

TABLE 1
DIFFERENCES BETWEEN INFERIOR AND SUPERIOR GROUPS ON
PERSONALITY TRAITS

Trait name	Mean score superior group	Mean score inferior group	Difference	Critical ratio
<i>Male</i>				
Neurotic	-54.3 ± 3.7	-59.1 ± 4.4	$+ 4.8 \pm 5.8$	.8
Introversion	-25.6 ± 2.3	-31.5 ± 2.7	$+ 5.9 \pm 3.5$	1.7
Self-Sufficiency	$+54.6 \pm 2.5$	$+30.9 \pm 2.6$	$+23.7 \pm 3.6$	6.6
Dominance	$+44.3 \pm 3.2$	$+59.9 \pm 3.4$	-18.6 ± 4.7	4.0
<i>Female*</i>				
Neurotic	-27.6 ± 4.6	-23.1 ± 5.8	$- 4.5 \pm 7.4$	.6
Introversion	-12.4 ± 2.8	-12.7 ± 3.5	$+ .3 \pm 4.5$	.1
Self-Sufficiency	$+45.7 \pm 3.2$	$+ 6.8 \pm 4.0$	$+38.9 \pm 5.0$	7.7
Dominance	$+28.0 \pm 3.4$	$+30.7 \pm 4.4$	$- 2.6 \pm 5.6$	.5

*Inferences should not be drawn from this table as to the difference between men's scores and women's scores on a given trait. These are raw scores and have not been translated in this table into percentile scores for the two sexes.

by the *A. C. E. Psychological Examination*) has substantially the same average emotional adjustment score as does the group of students of superior intelligence. If the comparison were based upon a normal distribution of the measures of intelligence and neurotic tendency, rather than upon the two extremes of such a distribution, the relationship between intelligence and emotional instability might be found to be closer. Other studies, however, have not indicated much likelihood of such a finding.

The relationships between intelligence and the "traits" of introversion and extroversion are likewise indefinite. The critical ratios of 1.7 for the men and .1 for the women are much too small to indicate significance and do not merit further discussion.

INTELLIGENCE AND SELF-SUFFICIENCY

There is a decided tendency for junior college students who are superior in intelligence scores to be more self-sufficient than those with very low intelligence scores. The critical ratios of 6.6 and 7.73 for the men and women, respectively, indicate a statistically significant difference. This difference between groups superior and inferior in intelligence becomes more significant when the effect of age is considered. Bernreuter found, in a comparison of "college male" self-sufficiency scores with "adult male" scores, a critical ratio of 3.5 in favor of the *older* group. The members of the superior group in this study are *younger*, however, than those of the inferior group, a difference of $1.0 \pm .2$ years for the freshmen men and of $1.3 \pm .2$ for the sophomore men. Despite this fact, the members of the superior group are still significantly more self-sufficient than those of the inferior group. It must be remembered, in the interpretation of the above figures, that a good many of the students in the inferior groups had dropped out of school before the additional data were secured, while most of those in the superior groups were still in school at that time. The effect of additional time in junior college upon the "self-sufficiency" of an individual has not yet been determined, but this point should be borne in mind when interpretation is made of the above figures.

On the basis of the data here presented, the more intelligent students tend to be more independent both socially and mentally than either the low criterion group of this study or the average of the

college population. (The median score of the superior group is on the 75th percentile of Bernreuter's "college male" norms.) It is likely, then, that high mental ability is associated with independence of both mental and social habits.

INTELLIGENCE AND DOMINANCE

The figures of Table 1 indicate that the mentally inferior men students tend to be more dominant than the mentally superior men students. The difference between the group averages is a statistically significant one. Why the same is not true of the women is unknown. Possibly the social pressures affecting personality development do not operate in like manner for both men and women. In the next section certain of these pressures will be analyzed as to possible effect upon social dominance, and it can easily be seen that the incentives to compensation will vary considerably with the sexes.

THE THEORY OF PSYCHOLOGICAL COMPENSATION

The difference found between the superior and inferior groups of men on the dominance scale seems to fall in line with the theory advanced by a number of students of personality. This theory posits conscious inferiority in one "trait" or physical feature, or in social status, as often leading to a compensation for such inferiority by an exaggeration of some other characteristic. There is an extensive literature on the theory of this concept, leading, in its modern expression, back to the fundamental thesis of Alfred Adler. One of the recent significant treatments of the subject is contained in a monograph by Raymond Dodge and Eugene Kahn (2). For them the craving for superiority is universal, but often is expressed in a "pseudo-superiority." This pseudo-superiority usually conceals some matter-of-fact inferiority which the ego-type worries about, and for which he overcompensates by the fiction of pseudo-superiority.

Two phases of the present study (involving only the data on men students) fall in line with the theory of overcompensation for feelings of inferiority. The greater social dominance of the intellectually and scholastically inferior men students might be posited as an overcompensation for feelings of scholastic inferiority. The grades of this group averaged about D+ while one-half of them had been eliminated from school either during their first or second year of

college and by the time the data of this study were secured. Hence feelings of scholastic inferiority may have been very evident in this group prior to, or at, the time when this test was taken.

If any of the members of either the mentally inferior or superior groups might be expected to show evidences of compensation, it would be those students who were striving hardest for social approval. The choice of a life work is one expression of this urge. Of the inferior group, 51 per cent, and, of the superior group, 68 per cent had chosen the professions, vocations bearing a significant stamp of social approval.

When the mean dominance score was computed of those of the inferior group who had chosen the professions and of those of the superior group who had done likewise, some interesting results were obtained. The mean dominance score of the inferior group who had chosen the professions was 23 points above the mean score for the total inferior group.⁴ On the other hand, the average dominance score of the *superior* group who had chosen the professions turned out to be only .84 of a score point above that of the total superior group. This means that the critical ratio between the inferior and superior groups who had chosen the professions was 7.4, a much greater difference than that between the total inferior and superior groups. The trend of these data supports the hypothesis that the inferior group, and particularly those who might be most motivated to do so, compensate for their feelings of inferiority by assuming a greater social aggressiveness.

Related to this overcompensation of social aggressiveness is the tendency for the members of this low-intelligence group to exaggerate statements of their own prowess or of their self-confidence. Part VIII of the Strong *Vocational Interest Blank* is a self-rating of abilities. A check in the "yes" column on 27 of the 28 items indicates a *self-expression* of one's own capability on that particular item. A check in the "?" column indicates a doubt of one's ability. The critical ratio between the average number of checks in the "yes" column for the inferior male group and for the superior male group was 8.3. In other words, there was a well-defined tendency for the

⁴This difference would have been greater, of course, had the comparison been made between those who had chosen the professions and the *remainder* of the total inferior group.

members of the inferior male group to check more in the "yes" column than did the members of the superior male group, thereby expressing a much greater confidence in their own abilities. The reverse was true for the "?" column. Here the critical ratio was 8.2 in favor of the superior male group. Inferior junior college male students, then, with a long record of low grades and mediocre achievement, apparently assumed an attitude of "pseudo-superiority" when it came to a self-expression of their own abilities.

SUMMARY

This study of differences in personality tendencies between groups of junior college students highly differentiated as to mental test ability leads to three tentative conclusions.

1. Extremes of intelligence do not appear to be associated with differences in degree of emotional stability.

2. Highly intelligent junior college students appear to be much more "self-sufficient" and independent, both mentally and socially, than junior college students at the lower levels of ability.

3. Junior college students with low intelligence scores and very inferior academic records appear to be more dominant in social behavior, and more self-confident, than their mentally superior colleagues, possibly as a psychological compensation for a feeling of inferiority. This is true only for the men students.

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LE NIVEAU DE L'INTELLIGENCE ET LA PERSONNALITÉ

(Résumé)

On essaie dans cette étude de déterminer les relations possibles entre le niveau de l'intelligence et chacun des quatre "traits" de l'introversion-extraversion, la tendance névrosique, la dominance, et la suffisance donnés dans l'*Inventaire de Personnalité* de Bernreuter. Les sujets employés sont un groupe de 324 étudiants du "junior college" ayant de très hauts résultats dans les tests d'intelligence (dans les cinq pour cent supérieurs de la distribution des résultats de 10.000 étudiants du "junior college") et un second groupe de 240 étudiants ayant des résultats très peu élevés dans les tests d'intelligence (dans les quinze pour cent inférieurs de la même distribution de 10.000 résultats). On n'a trouvé aucune différence entre les deux groupes dans les résultats moyens névrosiques ni d'introversion mais on a trouvé des différences constantes sur les échelles de suffisance et de dominance. Le groupe de grande intelligence a été significativement plus "suffisant" que le groupe moyen du collège ou le groupe d'intelligence peu élevée, ce qui indique qu'une haute intelligence comprend le concept de l'indépendance mentale et sociale. Par contre le groupe d'intelligence peu élevée a été significativement plus "dominant" socialement et agressif. Puisque ce groupe aussi a eu de très mauvaises notes scolaires, n'a vraiment pas réussi, on suggère ce trait de "dominance" sociale comme compensation psychologique d'un sentiment d'infériorité mentale. Les données alliées de l'étude soutiennent cette hypothèse. On indique quelques différences de sexe.

WRENN, FERGUSON, ET KENNEDY

DAS INTELLIGENZNIVEAU UND DIE PERSÖNLICHKEIT

(Referat)

Der Versuch wurde gemacht, wahrscheinliche Verhältnisse zwischen dem Intelligenzniveau und jedem der vier "Charakterzüge" von Introversion-Extraversion, neurotischer Neigung, Herrschsucht, und Selbständigkeit, wie sie durch das Bernreuter Persönlichkeitsinventar erhalten werden, zu bestimmen. Die Vpn. entstammten einer Gruppe von 324 Universitätsstudenten mit sehr hohen Intelligenzwerten aus 10 000 Universitätsstudenten (Junior College) und einer zweiten Gruppe von 240 Studenten mit sehr niedrigen Intelligenzwerten (in dem niedrigsten 15 Prozentsatz derselben Verteilung von 10 000 Werten). Kein Unterschied zwischen den beiden Gruppen in bezug auf Durchschnittswerte für neurotische Neigung oder Introversionswerte wurde festgestellt, aber zuverlässige Unterschiede wurden für Selbständigkeit und Herrschsucht gefunden. Die Gruppe mit hoher Intelligenz war bedeutsam "selbständiger" als die Durchschnittsuniversitätsgruppe oder die Gruppe mit niedriger Intelligenz, was darauf hinweist, dass die hohe Intelligenz den Begriff von geistiger und sozialer Unabhängigkeit einschliesst. Andererseits war die Gruppe mit niedriger Intelligenz bedeutsam sozial "herrschaftlicher" und aggressiver. Da diese Gruppe auch schlechte Schulzensuren bekamen, d.h. durchgefallen, wurde der Charakterzug von sozialer "Herrschsucht" als psychologische Ausgleichung für das Gefühl der geistigen Minderwertigkeit vorgeschlagen. Die Daten aus dieser Untersuchung bestätigen diese Hypothese. Einige Geschlechtsunterschiede wurden angedeutet.

WRENN, FERGUSON, UND KENNEDY

FASCIST ATTITUDES: AN EXPLORATORY STUDY*

From the University of Akron, Akron, Ohio

ROSS STAGNER

The Thurstone technique (6) for constructing attitude measurement scales is limited by two conditions: (1) that individuals serving as judges have a reasonably clear idea of the meaning of the two ends of the attitude continuum, and (2) that subjects taking the attitude scale be willing to allow their true attitudes to be known.

The importance of the first point is too obvious to need explanation. The second is well illustrated by the study of Stagner and Drought (5) on measuring children's attitudes toward their parents, in which it appeared that 80 per cent of the scores fell within the limits 2.1-4.0 on a scale from 0 to 11. Even though students may consciously have tried to cooperate, the influence of unconscious interferences must have been very great.

The pertinence of these points developed in the course of an attempt to devise a method for measuring attitudes of sympathy for fascism. Fascism, although a movement of great significance for social scientists, has received little attention from psychologists. This may have been due in part to the fact that fascist movements seem to have changed their characteristics from time to time, and also, no doubt, to the fact that the primary factors involved seemed to be of an economic nature.

The definition of fascism is not entirely a matter of general agreement. It is not even possible to select with certainty any set of criteria which would define a fascist movement, although we could suggest some general traits which would probably prove significant. Thus the probability of getting judges who could decide on the relative values of different statements is small. Further, if we built the traditional type of Thurstone scale, in which the term "fascism" would be included, the majority of persons in this country would

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make a highly antagonistic score merely because of prejudice against the name. The "scale for communism" in this series actually measures reactions to the word communism and, not in any large degree, reactions to communist philosophy and ideals.

We concluded, therefore, that it would be necessary to devise a new approach to the study of this problem. The first task was that of obtaining lists of characteristics of fascist movements. It was decided that this should be confined to the German and Italian parties, as types, and a purely historical approach was used. Mussolini (4), Hitler (3), Dutt (1), Mildred Wertheimer (7), and Friters (2) furnished various illustrations of the points of view and propaganda appeals involved. In addition, of course, the objective events in Italy and Germany were taken into consideration.

Summarizing the results of this historical survey, we find that seven more or less distinct concepts are illustrated in both German and Italian fascism. These are: nationalism, or opposition to internationalism; imperialism; militarism; racial antagonism; anti-racialism; middle-class-consciousness, which may be defined as a superior attitude toward the working class; and the benevolent despot or strong-man philosophy of government.

The second step was to collect a series of statements illustrating these different points of view. These were gathered from various sources¹ and some were made up to fit an opinion not conveniently discovered. Thirty-five statements of opinion in all were accepted as suitable.

Although the word fascism appeared in no statement, we felt the desirability of disguising the purpose of the scale still further, and 15 statements about general economic conditions having little bearing on the problem were added in random order. The whole was then mimeographed as a true-false questionnaire, headed "Opinions About the Depression."

SUBJECTS

The scale, in this form, was administered to 224 college students in three middle-western institutions.² Some of the students signed

¹Many statements were gathered from the Chicago Tribune, from editorials of W. R. Hearst, and from Bernarr McFadden. Where these sources were inadequate, statements were invented to show the opinion desired.

²I am indebted to Dr. H. F. Harlow and Dr. A. R. Gilliland for administering these tests to their classes. Mr. E. T. Katzoff assisted in the statistical work.

their names, but no attempt was made to ascertain their identity if they failed to do so. We attempted to get entirely unbiased statements of their opinions.

The scales were scored by giving one point for each statement of a "pro-fascist" nature endorsed by the subject. While this is admittedly a crude method, it was thought better than any arbitrary weighting that might have been devised.

The college groups were kept separate for comparison, but scores were also tabulated by sex for those individuals whose test blanks were marked with this information.

RESULTS

Items 1-21 were mimeographed on one sheet and 22-50 on another. Ninety-one test blanks obtained from P.J.C. students gave a correlation of .63 between page 1 and page 2. While this is poor for a reliability coefficient (even though the Spearman-Brown formula would predict a reliability of .77 for the whole scale), it is surprising that an assorted group of statements like this would give any sort of correlation. The size of the coefficient gives us ground to suspect that there is a general attitude unifying the different opinions used.

Sex differences were insignificant, the mean for 49 women being 17.53 and for 74 men, 16.93, the C.R. of the difference, about .60.

Comparison of the three student bodies sampled, however, gave interesting differences. These are shown in Table 1.

TABLE 1
COMPARISON OF MEAN SCORES OF STUDENTS AT THREE MIDWEST COLLEGES

	N	Median	Mean	S.D.
A	91	15	16.9	5.18
B	71	15	16.7	5.75
C	62	21	20.8	3.88

The difference between Group A (the P.J.C. group) and Group B (students from a state university of "liberal" tradition) is insignificant. Group C, however, is reliably higher than either. The difference between Groups B and C is 4.1, the S.D._{diff.}, 0.84, and the C.R., 4.88.

Group A is composed mainly of students whose parents are economically of the working class or lower middle class. They cannot afford an expensive college, nor can they afford to leave home to attend the state university. Group B is taken from a state university with a wide variety of students, but is widely believed to be a liberal institution, thus probably attracting many students who hold this viewpoint. Group C is from an expensive institution attended by well-to-do young people whose leanings are very conservative.³

The occurrence of such a reliable difference in a direction which coincides with theoretical expectations led us further to analyze the individual items to see if more evidence of a general "pro-fascist" attitude would develop. This item analysis involved a comparison of answers by the upper and lower extremes of the entire group of 224 students. The distribution is shown in Table 2. The upper and

TABLE 2
DISTRIBUTION OF SCORES FOR 224 COLLEGE STUDENTS

Score	<i>f</i>
0- 2	3
3- 5	5
6- 8	14
9-11	17
12-14	33
15-17	57
18-20	39
21-23	35
24-26	16
27-29	6
30-32	1

lower 20 per cent (46 cases, to be exact, from each end) scoring in the ranges 0-12 and 22-30 were used for this purpose.

The formula used was a simple probability formula⁴ showing the

³It is interesting to note that in the few weeks since this test was given at institution C, a chapter of the American Liberty League has been formed and another organization of decidedly fascist tendencies is trying to obtain a foothold.

⁴The formula is:

$$SD^2_{1,2} = \frac{p_1q_1}{n_1} + \frac{p_2q_2}{n_2}$$

accuracy with which any given answer would predict the group into which that subject was likely to fall. The percentage of persons in both high and low groups endorsing a given statement, the difference between these two percentages, the standard error of this difference, and the critical ratio of the difference were computed for all 50 statements. The results are summarized by dividing the statements into three roughly equal groups, 18 showing C.R.'s of 5.00 and over, 13, C.R.'s of 3.00-4.99, and 19, less than 3.00. These are listed respectively as Tables 3, 4, and 5.

TABLE 3

ITEMS RECEIVING A C.R. OF 5.00 OR MORE

(The numbers at the left show the position of each statement in the mimeographed scale.)

3. Recovery has been delayed by the large number of strikes.
4. The U. S. should stop immigration to give American workers more jobs.
8. If we buy European made goods, we make the depression in this country last longer.
11. Building a bigger navy would give men jobs and protect our foreign markets, so that should be done.
12. Most labor trouble happens only because of radical agitators.
13. The unemployed should be given military training so our country could be protected in time of war.
16. The people who complain most about the depression wouldn't take a job if you gave it to them.
21. Any able-bodied man could get a job right now if he tried hard enough.
23. Most people on relief are living in reasonable comfort.
24. We must protect our trade in the Philippines against the Japanese.
27. The government must first balance the budget.
28. CCC camps where the boys learned military discipline and self-control would be a good idea.
30. The president was justified in protecting U. S. interests in Cuba.
34. Labor unions are all right, but we can't have strikes.
37. The U. S. should make these European countries pay off their war debts.
42. While raising the standard of living we must safeguard property rights as guaranteed by the Constitution.
43. Unemployment insurance would saddle us with a nation of idlers.
46. These unemployed organizations are just a bunch of chronic complainers.

TABLE 4

ITEMS RECEIVING A C.R. BETWEEN 3.00 AND 4.99

7. What we need is a strong president who will make people cooperate for recovery.
10. Recognition of Soviet Russia was a big mistake.
14. Capital and labor should get together for a fair wage and a fair profit.

15. The sales tax is an unfair way of raising relief money.
17. We must all sacrifice a little to build a strong American nation.
18. The president was all right until he became influenced by communistic ideals.
33. The formation of big trusts bankrupted many small businesses and so brought on the depression.
39. If the government didn't meddle so much with business everything would work out all right.
40. We should consider our duty to our country first in this time of crisis.
44. America has plenty of plans—what it needs is strong men who are willing to work for recovery.
45. If we have unemployment, we should deport the excess workers back to their home countries.
47. The NRA would have worked if so many strikes hadn't been organized.
48. People should not be allowed to vote unless they are educated and intelligent.

TABLE 5

ITEMS RECEIVING A C.R. OF 3.00 OR LESS

1. Conditions are likely to get better in 1935.
2. The farmers have been hit harder than the city workers.
5. The depression has caused an increase in crime.
6. This country should try to get more foreign markets so as to increase prosperity.
9. Many workers have been unemployed for five years through no fault of their own.
19. What we need is more international cooperation, not less.
20. Prosperity would come back if we could show business men that they could invest money at a profit.
22. Munitions makers probably don't have near as much to do with starting wars as the papers claim.
25. Italy has taken the wrong way out of the depression.
26. We will always have depressions.
29. The average person isn't intelligent enough to vote his way out of the depression.
31. Inflation would solve most of the problems of the depression.
32. There is no excuse for depressions.
35. The Wall Street bankers brought on the depression to clean up on the little fellows.
36. If we had stayed out of the World War, we would never have had this depression.
38. We'd get out of the depression quicker if we had a strong intelligent man with full power to run things.
41. The collapse in 1929 was due primarily to overproduction.
49. The U. S. ought to demand its fair share of trade with China.
50. What we need is more businesslike government.

The results of this analysis show that the benevolent despot point of view did not enter to any marked degree into the determination of this general attitude. Militarism, while evidently of some im-

portance, did not play as large a rôle as might have been anticipated. Imperialism was not expected to loom large, as the United States is not yet suffering the population pressure of Germany and Italy.

The essence of the general "pro-fascist" attitude which seems to be indicated by this study lies in the attitude of class superiority taken by many individuals toward the elements of the population which are below them in an economic and industrial sense. The anti-radical attitude is also markedly involved, and nationalism and racial antagonism are manifested.

DISCUSSION

The fascist movements of Italy and Germany have often been described as "middle-class movements" in which the small land-holders, professional and white-collar workers, and others who occupy a position intermediate between the capitalist and the proletarian participate to prevent a change in the status quo by setting up a regulated capitalism. The danger of being forced into the working class by the continued decline of the standard of living which was especially characteristic of post-war Italy and Germany caused the development of a feeling of insecurity, leading to anxiety and fear. That, in this sense, "group" neurosis (neurosis affecting a large number of individuals in whom the same predisposing factors are present) is the basis of fascism might be psychologically true.

The aim of fascist revolutions has been to prevent working-class revolutions and secure for the middle class some measure of security from monopoly capital, to protect this class against being forced into the proletariat. Since the same economic forces are operating in America, the same mental processes can be expected.

The opinions held by those students making high scores on this scale indicate that they too take an antagonistic attitude toward labor, consider themselves superior to the average worker, lack sympathy for the misfortunes of the unemployed, and in general identify themselves with the middle class. The differences between the college groups tested are consistent with this point of view.

In short, the attitude which apparently determines scores on this scale seems to be an approximation to the attitude underlying the mass movements in Italy and Germany which took the form of

the fascist parties. Further studies are being undertaken with a revised form to check this assumption with groups of different economic status.

REGARDING METHOD

Entirely aside from any considerations as to the legitimacy of our analysis of fascism in Europe, the present study raises important questions regarding the technique of measuring the sympathy of a subject for any given point of view.

First, it assumes that it is legitimate to use, as opinions bearing on a certain attitude, statements taken from the propaganda used to influence outsiders in the adoption of the attitude. This procedure seems entirely valid and unquestionable.

Secondly, it assumes that the degree of acceptance of the attitude (or of sympathy for the position) is proportional to the number of statements so chosen. About this point there is considerable doubt. Many individuals may endorse a position for one, and only one, reason, disapproving of it in its other implications. Many people voted Democratic or Republican in 1934 for the purpose of expressing their stand on a single issue, while consciously or unconsciously siding with the opposition on other points. (This is partly due to the fact that neither old party has a definite political philosophy any more.)

An alternative procedure which would obviate this criticism to some extent might be the use of weighted judgments, asking subjects to state the degree of conviction they felt about any given opinion. Multiplying the number of statements endorsed by the conviction felt would give a score indicating the acceptance of the attitude by those who agreed with only a few statements but agreed very emphatically.

This is still not a completely satisfactory technique because some opinions may come much closer to the "core" of the attitude than others, and hence all should not be weighted equally.

The third problem that faced us was the question of the correct statistical criterion to be used in evaluating these lumped, heterogeneous opinions. Admitting that they were of unequal value and might even prove to be unrelated to the attitude in question, we felt that it was necessary to discover by some fairly rapid technique the

approximate success of the various items in differentiating people holding opposite ends of the hypothetical attitude continuum.

The technique adopted, that of arbitrarily scoring each statement endorsed as equally valuable and validating items in terms of the success of each in differentiating high and low scores on the entire scale, makes no assumptions about the existence of a basic attitude. If there is a basic attitude, some statements will be found to have a high value in predicting the location of a subject in the high or low group, while, if there is no such attitude, no statements will prove significant. The formula used relates only to the probability that a person answering such and such a question in such and such a way will be more like the high group than like the low group.

It is not expected that anyone will accept this technique as proving the existence of a general attitude which may be labelled "sympathy for fascism," much less as defining the opinions which most significantly characterize that attitude. It is reasonable, however, to present the results of the present study as an approximation to a problem not accessible to the usual type of attitude study, and as giving stronger reasons for belief in the existence of such an attitude and several cues as to the best direction for investigation.

For this continued search one of the factor analysis techniques seems to be best adapted. It will be necessary to find clusters of opinions and to demonstrate the existence or lack of correlation between these clusters, before a final answer can be given to the questions raised here.

SUMMARY

1. A historical analysis suggested that certain features characterized fascist movements in both Germany and Italy.
2. Statements were collected relating to American conditions, but illustrating these same features.
3. When these were presented in disguised form to college students, evidence of a general attitude which might be called "pro-fascist" developed.
4. The technique employed is admittedly a compromise and subject to many criticisms, but is useful as an exploratory method.

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LES ATTITUDES FASCISTES: UNE ÉTUDE EXPLORATIVE

(Résumé)

Sur la base d'une analyse de la propagande des mouvements fascistes italien et allemand, on a trouvé sept concepts qui caractérisent les deux: le nationalisme; l'impérialisme; l'anti-radicalisme; les préjugés de race; le militarisme; la conscience de la bourgeoisie; et le despotisme bienveillant. On a présenté 35 opinions faites pour révéler ces attitudes (avec 15 opinions "tampon") comme test vrai-faux à 224 étudiants universitaires. On a donné un total de points à chaque étudiant égal au nombre de déclarations en faveur du fascisme lesquelles il a approuvées.

Dans cette forme inexacte, l'échelle montre une assez bonne cohérence, puisque les points 1-21 fait une corrélation de 0,63 avec les points 22-50. On a trouvé une grande variation des résultats, et les groupes universitaires de divers milieux sociaux et économiques ont cédé des résultats très différents. Les groupes prolétaire et libéral se sont opposés aux idées fascistes plus que les groupes bourgeois.

L'analyse des points fait croire qu'une attitude fondamentale se trouve à la base de ces opinions diverses. La composition de cette attitude comprend d'une façon prédominante les idées bourgeoises, avec des préjugés anti-prolétaires, anti-radicaux et nationalistes. Le despotisme bienveillant n'a pas semblé important (à ces étudiants universitaires) et le militarisme et l'impérialisme ont été moins importants que l'on n'avait pensé.

STAGNER

FASZISTENEINSTELLUNGEN: EIN HEURISTISCHES STUDIUM

(Referat)

Auf Grund einer Analyse der Propaganda der italienischen und deutschen Faschistenbewegungen fanden sich sechs Begriffe, die durch Nationalismus, Imperialismus, Gegenradikalismus, Rassenhass, Militarismus, Mittelstand-

bewusstsein und wohltuenden Despotismus gekennzeichnet sind. 35 Ansichten, die zur Enthüllung dieser Einstellungen entworfen wurden, wurden (mit 15 unbedeutenden Ansichten) 224 Universitätsstudenten als einen Wahr-Falschtest gegeben. Jeder Student bekam einen wert, der der Zahl der Angaben für die Faschisten gleich war.

In dieser rohen Form zeigt die Skala eine ziemlich gute Zuverlässigkeit; die Einzelheiten 1-21 korrelierten 0,63 mit den Einzelheiten 22-50. Eine grosse Zerstreuung der Werte wurden gefunden, und die Universitätsgruppen mit verschiedenen sozialen und ökonomischen Hintergründen gaben merklich verschiedene Ergebnisse. Die Arbeiterklassen und liberalen Gruppen waren gegen die Fasziatenideen mehr als die Mittelklassengruppen.

Eine Analyse der Einzelheiten führt zum Schluss, dass eine Grundeinstellung diesen verschiedenen Ansichten unterliegt. Die Zusammensetzung dieser Einstellung findet sich hauptsächlich bei Mittelstandsideen mit Ansichten gegen die Arbeiter, Radikalen und mit nationalistischen Vorurteilen. Wohltuender Despotismus schien (bei diesen Universitätsstudenten) nicht wichtig und Militarismus und Imperialismus waren weniger wichtig als erwartet wurde.

STAGNER

DIET AND RACIAL TEMPERAMENT*

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Personality traits have long been considered a function of nationality. We commonly speak of French emotionality, German thoroughness, Scottish thrift, and American initiative. This concept is further expanded and applied to racial characteristics when we consider the Hindu as contemplative and introspective, the American Indian as unemotional and undemonstrative, while the American Negro is typically supposed to be a happy, carefree, shiftless fellow. There is a strong inclination toward the viewpoint that Orientals are fundamentally different from Occidentals. The feeling that somehow foreigners belong to a different psychological species may account for much of the irrational distrust of foreigners harbored by the average man. There can hardly be any doubt that mental differences as a function of race are *believed* to exist but whether or not they really *do* exist and in what quantity is a question to which we cannot give a scientific answer at present.

It is a fact surely beyond dispute that science, invention, and commerce as we know them today are mainly European developments. The ruling nations of the earth are primarily European, wielding a power far out of proportion to their numbers. Whether or not they will continue this dominance is another question, nor are we concerned in this discussion with the ethics or desirability of European domination. It is sufficient to recognize that there has been a vigor and drive resulting in certain achievements which have never been equalled in the history of man. When we inquire into the reasons for the dominant position of western civilization only speculation is possible. Explanations have varied all the way from divine ordination to accident. One of the hypotheses suggested is diet, which we shall examine critically.

Berman (6) among the recent writers (1932) has strongly favored

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the notion of a direct influence of food upon the character and behavior of people. He writes, "With the development of modern knowledge, it has become apparent that food undoubtedly played a determining role in the fate of nations. Who can say what caused the curious resurgence of creative energy in the England of the sixteenth century, the century of Shakespeare? How effective was the introduction of new foods and spices from the East and the West?" To this we should add the question, Why was there not the same "creative energy" among the people from whom these new foods and spices were obtained? And we might further ask, Was food responsible for the short but tremendously productive period of fifty years—the "Age of Pericles"? Did the Bastille fall because of the diet of the French mob? It might be somewhat nearer the truth to say that the Bastille fell because of what they did not have to eat! Do communists and radicals eat different food than those who are immovably conservative? In discussing the food habits of leaders Berman calls attention to the enormous meals consumed by Bismarck, exponent of the "blood-and-iron" policy, and Boies Penrose, political boss in Pennsylvania. In contrast to these two individuals with gluttonous appetites we have Gladstone who antedated Fletcher in the idea of thorough mastication by half a century. Berman asks, "How much were Gladstone's liberalism and abstemiousness connected?" But it is difficult to think of a convincing reason why liberalism and abstemiousness should be related to each other. Mahatma Gandhi is cited as having observed the effects of diet upon himself and "he is convinced that the character of his thoughts and desires varied definitely with the nature of his food." While Gandhi's observations may be entirely valid, a knowledge of the powerful effects of mental bias should make us hesitate to consider his observations as scientifically accurate. To summarize, it is possible that these men ate as they lived—Bismarck and Penrose, crudely vigorous and domineering; Gandhi and Gladstone with moderation, mildness, and self-restraint.

The dietary explanation of racial characteristics hinges largely upon the relative merits of a vegetarian vs. meat diet. But "vegetarianism" means so many different things. There are those who eliminate flesh foods but occasionally eat fowl and fish. Then there is the so-called "lacto-vegetarian" who eliminates flesh foods of every

kind but retains dairy products and possibly eggs. Finally, we have the absolute vegetarian who dispenses not only with all flesh foods but all foods of animal origin. He eats only plants or foods of plant origin.

Mendel (37) has called attention to the fact that vegetarianism usually involves a moral aspect. Lake (24) gives four reasons why one might decide to become a vegetarian: (1) belief that it is immoral or ethically indefensible to kill animals for food, (2) belief that the eating of flesh interferes with the development of the "higher faculties," (3) the conviction that meat is bad for the health, and (4) that meat is considered unduly expensive. The first reason is hardly of interest from the scientific standpoint for it rests wholly upon a belief which the individual is entitled to hold if he chooses. The second reason is subject to experimental verification but since considerable difficulty would be encountered in defining and measuring the so-called "higher faculties" it is unlikely that many psychologists could be interested in the problem. Lake dismisses the first two reasons as matters of belief and answers the remaining two arguments by concluding that a vegetarian diet, "except in individual cases, is not essential to health and efficiency, although, as a rule, it is entirely consistent with them; it is by no means generally less expensive than a dietary program which includes meat." Oshima (42) believes that religious scruples against meat eating among the Japanese would affect but a small percentage of the population. They eat but little meat more from necessity than from choice. Most of the meat is eaten by the wealthier people in the cities.

Wu and Wu (63) conclude that there is no optimum vegetarian diet for the white rat, but their work has been criticized (17) on the grounds that they overlooked nuts as an excellent source of protein. Tang, Chin, and Tsang (52, 53) report evidence that a vegetarian diet has an unfavorable effect upon learning ability in white rats. They find that the adverse effects of diet will be fully apparent only when the deficiency begins at birth or earlier and conclude that the vegetarian diet results in a lack of vigor involving the motor cells of the central nervous system. If it is as difficult to devise an entirely adequate vegetarian diet for human beings as it seems to be for rats, then we may strongly suspect that vegetarianism is directly responsible for the lack of vigor and aggressive-

ness noted in certain parts of the world. Even though it may be possible to devise an entirely adequate vegetarian diet, nevertheless, if it is very difficult to do so under ordinary conditions, it will nearly always constitute a deficient diet. In this case, the eating of some meat would seem to be justified and can be denounced only in case it is definitely shown that there are harmful effects. This means that a normal state of energy will be achieved with less trouble while subsisting on an omnivorous diet than on a vegetarian diet. McCollum (31) finds that in spite of a slightly deficient diet rats may give the appearance of normal vitality, yet there is sufficient physical deterioration so that after several generations the strain dies out. Minot (38) seems to hold the same opinion in regard to human beings for he writes that "the effects of a persistent slightly faulty diet may become detectable only after many years and perhaps not for generations." The extent to which this may be responsible for racial deterioration we cannot say at present, but it is an interesting speculation.

Vegetarianism should not be confused with the problem of a high protein dietary vs. low protein. In actual practice, it is true that the elimination of meat will generally mean a lowered protein intake. Chittenden (10) has been one of the strongest exponents of a low protein dietary, although Murlin (40) states that "Chittenden himself did not stay on this diet more than two or three years until he found it necessary in order to retain bodily vigor to return to a fairly liberal meat diet." Going to the other extreme, Stefansson and Andersen (25, 26) lived for a whole year upon an exclusive meat diet with no observable bad effects. However, McClellan (30) states that a large amount of fat was consumed and that the protein was actually only moderately high. Lean meat alone was not well tolerated. Benedict (3) writes that "dietary studies all over the world show that in communities where productive power, enterprise, and civilization are at their highest, man has instinctively and independently selected liberal rather than small quantities of protein." He further remarks, "It seems clearly established that when people accustomed to a low protein diet are fed on a higher protein plane, as is the case when the southern Italians come to America, their productive power increases markedly." Now, it is entirely possible that a high protein consumption is the correct explanation for the

increased productivity but we must not lose sight of the stimulating effect of this new "land of opportunity"—a glorious chance to achieve in a way that was never possible before. Until we are better able to evaluate the effects of motivation, it would be unwise to give all the credit to diet. McCollum, Simmonds, and Parsons (33) favor a liberal protein intake but express the novel and interesting opinion that the food of progressive peoples derives its value not so much from meat as from dairy products. On the other hand, Hindhede (20) favors a vegetarian diet with but a small consumption of meat. The small amount of animal protein, along with a relative deficiency of fat-soluble vitamin, is suggested by Chun (11) as the explanation of the lack of energy and aggressiveness among the Chinese poorer class. Grayson (18) observes that "the meat eating races rank high in invention and initiation." Mason (35) writes of the psychological effects of malnutrition in Germany during the war, attributed largely to the low protein diet. Some of the effects noted were loss of efficiency, reduced morale, loss of endurance, fatigability, a great tendency to forget, and loss of initiative. However, the criticism is to be made that the effects noted may have been partly due to the strain of the war. Berry (7) is of the opinion that energy and aggressiveness are not so much a matter of high and low protein as a question of purins. This is a problem which should be capable of solution through experimentation, but apparently has received no attention.

That vegetarians are peaceful in nature seems to be rather widely held, and the Orientals are commonly referred to in order to support this argument. Japan is generally thought of as an essentially vegetarian nation. In 1905, Oshima (42) stated that no adequate studies of the diet of the masses had been made while Hirai is quoted in 1925 by Holt (23) as stating that the Japanese "rarely get meat but take much fish." The dietaries of students and professional men seem to compare favorably with those of Americans, and it is well known that the diets of Japanese soldiers and sailors have received particular attention. One is tempted to recall that Japan fared quite well in a war with Russia, not so many years ago, and that lately she has been making vigorous territorial expansions in a thoroughly European manner. It would seem difficult, then, to determine to what extent the Japanese national diet is really vegetarian, but it may not be so lacking in protein as is sometimes thought.

Lorand (28) is convinced that "the nations living principally upon vegetables are less prone to engage in war-like enterprises; they like quiet and peace, and are especially lacking in initiative and energy . . ." In fact, he proposes to go much further and show that "intelligence and all mental attributes in general are greatly influenced by food." Wherry (59) has been among the few who have been bold enough to challenge the theory that a low protein diet will cause racial inferiority. He points out that with the high incidence of beriberi in Japan and the prevalence of hookworm in India, 60 to 80 per cent of the population being infected, we may very well doubt that a low protein diet ever causes or aids in the production of racial inferiority. Sherman (45) expresses doubt that a high protein diet is of particular benefit. It is his belief that liberal meat eating is traditional and an outgrowth of hunting and frontier conditions. Meat is considered a "man's food" and so is associated with virility. On the other hand, Thompson (54) thinks that animal food in some form must be regarded as absolutely essential for all vigorous races. Vigsford relates, according to Thompson, that when a railway was built from Paris to Rouen, the English workmen did about one-third more work than the French. After roast beef was substituted for soup in the French diet, the amount of work done by each group was equalized. This observation may be criticized on the grounds that substituting roast beef for soup quite probably resulted in a substantial addition of calories to the diet and it may have been this fact rather than the protein in and of itself which caused the increased labor output.

It would seem the idea has existed for a great many years that herbivorous animals become ferocious when trained to eat flesh while carnivorous animals given a vegetable diet become very gentle. Carpenter (9) wrote in 1851 that cattle fed upon fish fatten rapidly but "the diet changes their nature, and renders them unmanageably ferocious." He believed in similar effects in the case of human beings for he writes that the Tartars who live principally upon animal food are warlike and cruel while the Brahmin and Gentoo subsisting chiefly on a vegetable diet are peaceable and mild. In 1869, Liebig (27) also wrote that carnivorous animals due to their food are bolder and more combative than herbivorous animals. It is well known, he remarks, that when swine are given flesh food they grow

so irascible they will even attack men. Recently (1928) Lorand (28) has written that "many wild animals become remarkably tame when deprived of a meat diet," and that tamers of animals make use of this fact when rearing young wild animals. Lorand believes that the effects of diet observed in animals will also hold true in the case of human beings. It would be interesting to know to what extent these supposed effects of diet could be verified experimentally, for one strongly suspects that the observations are influenced by preconceived ideas. It is possible that the deprivation of meat causes an animal or a human being to live on a lower energy plane thereby giving the appearance of peaceableness and a mild disposition. According to this hypothesis, a vegetarian diet simply depresses the activity level. On the other hand, a generous intake of meat may bring out the full energy potentialities resulting in a dynamic organism which reacts with vigor and initiative. Perhaps this is the kernel of truth upon which the various observations are founded.

It seems to be well established that the ingestion of food substances, particularly protein, results in a distinct increase in basal metabolism [Benedict and Carpenter (4), Lusk (29), Wishart (61)]. On the basis of this, it may be argued that the continued ingestion of a high protein diet may result in a permanently higher plane of basal metabolism and that this would account for the energy and vigor of meat eating nations. Were this true, we would expect the Eskimo who consumes a high protein diet to be particularly violent, for Heinbecker (19) has shown that the basal metabolism of these subjects living near the Arctic is about 33 per cent higher than for people living in the temperate zone. However, Du Bois (16) calls attention to the fact that the Eskimos are the most peaceful and unwarlike race in the world. Either the Eskimo has his increased metabolism offset by a particularly hostile climate or else the hypothesis that a high metabolic rate is largely responsible for racial vigor is considerably weakened. Whitacre and Blunt (60) attempted to find whether or not the dynamic action of a simple diet is related to temperament. They selected five human subjects as representative of contrasting temperamental types. The first type was described as vivacious, tense, quick-moving, irascible, and excitable while the second type was characterized as placid, relaxed, deliberate, phlegmatic, and calm. They found no relationship between food utilization and

type nor did they find any evidence that the dynamic action of food is more marked in vivacious individuals than in the placid. This study of Whitacre and Blunt casts some doubt upon the theory that the energetic individual owes his activity to the food which he eats. This conclusion receives further support from Shirley (46) who, after a thorough review of the literature on spontaneous activity, concludes that outside of partial or complete starvation there is no way of feeding a rat which will make him more active. It seems, then, that a rise in the metabolism caused by the ingestion of food does not necessarily result in a corresponding increase in activity, although confirmation of this conclusion through further experimentation would be desirable. However, it is possible that basal metabolism and activity are related not through food but through inheritance, for Rundquist and Bellis (43) found active strains of rats to have definitely higher metabolic rates than the inactive strains. The rats were from the fifteenth generation of lines selected on the basis of spontaneous activity.

A study of the basal metabolism of vegetarians offers a somewhat different approach to the study of the part played by protein in racial temperament. While Benedict and Roth (5) concluded in 1915 that a vegetarian diet did not fundamentally alter basal metabolism, later work (1931 and 1932) by Wakeham and Hansen (57, 58) has shown positive results. These authors found evidence that a long period of vegetarianism, at least six or eight years, is required to produce a noticeable reduction in the basal metabolic rate. Wu and Chen (62) found slightly lower values for vegetarian rats than for omnivorous rats. It has been urged by various writers (34, 36, 39, 41) that a lower basal metabolism be recognized in the case of Orientals, although Takahira, according to Mukherjee and Gupta (39), after a thorough investigation concluded that the Japanese showed no marked difference from the Western races.

There have been a number of studies on the spontaneous activity of the white rat and some of these investigations have involved diet. Perhaps the earliest of these was the study of Slonaker (47, 48) who fed rats a strictly vegetarian diet and found that the voluntary activity was so much reduced that it resembled senile conditions. When the rats were returned to a diet drawn from both animal and vegetable sources, voluntary activity again became normal. The

criticism has been made (32, 46) that the vegetarian diet used by Slonaker was in all probability not adequate. This may well be the case, for the investigation, reported in 1912, shortly antedated the "vitamin era" and the diet may also have lacked protein of the optimum quality and quantity. Hitchcock (21) found that adding a liberal supply of protein to a diet already high in protein did not consistently increase the voluntary activity of the white rat. He found (22) that a diet containing 12 per cent protein all of vegetable origin tended to depress the activity of the rat when fed for a long period of time. A diet containing 14 to 18 per cent of protein, with two-thirds to three-fourths of the protein coming from animal sources, was found by Slonaker (49) to result in maximum spontaneous activity in the white rat, while 22 to 24 per cent, as well as 10 per cent, was found to be unfavorable. Rats receiving a well-balanced diet were found by Conger (13) to be more active than those receiving grain without animal protein or those on a diet high in animal protein. An examination of his dietaries shows that although the grain group lacked animal protein entirely the total protein was not abnormally low, so the experiment was really a test of the effects of animal protein. According to Trembly (55), when rats are fed a ketogenic diet there results a considerable increase in activity. This might be explained as due to the specific dynamic action [Lusk (29)] of fat. On the other hand, it is quite possible that the increase in activity was caused by the unusualness of the ketogenic diet rather than by a direct physiological effect. Crile (14) suggests that an excessive kinetic drive in human beings may be due to various factors, among which he mentions auto-intoxication (foreign proteins) and excessive diet.

It would seem unwise to attempt to determine the part played by diet in racial vigor and aggressiveness without giving some consideration to heredity. The accumulated evidence points rather clearly to the fact that activity is a function of inheritance, at least in rats and mice. The first experimental attack on this question was probably that of Yerkes (64), who in 1913 presented results which he felt were sufficient to "prove conclusively that savageness, wildness, and timidity are heritable behavior-complexes" in rats. A few years later Coburn (12) noted that the degree of wildness or savageness possessed by mice tended to be duplicated in the offspring. In a study

involving nearly 900 mice, Vicari (56) found that the speed of running a maze (which he called reaction time) was strongly influenced by hereditary factors. Several years earlier Sadovnikova-Koltzova (44) had found the same thing to be true of rats. Vicari concluded his evidence indicated that rapid running is dominant to slow running. Stier (50) casually observed that dilute brown mice tended to be more nervous, jumped around with greater vigor, and were more difficult to handle than the white strain. Stone (51) rated rats of different strains according to wildness and savageness and studied the effects of cross breeding. He concluded that the differences shown even at an early age were due to hereditary rather than environmental factors. The length of time which it required a mouse to run a certain distance was used by Dawson (15) as a measurement of wildness and tameness. The method would seem to be satisfactory, since a coefficient of reliability of $.921 \pm .003$ for 1232 mice was found. A distinct difference was found between the wild and tame stocks, which was increased by selection carried on through four generations. Wildness was found to be quite definitely dominant to tameness. It was observed that the association of the young with the mother had no effect upon performance under test conditions. This observation greatly strengthens the study for it must always be kept in mind that the validity of such experiments depends largely upon how well the effects of learning by association with other animals have been excluded.

The evidence, then, makes it very probable that degree of activity is largely a function of inheritance. There is very little evidence that the plane of activity can be markedly raised through diet, although it is quite likely that a defective diet will lower it. These findings should make us cautious in attributing racial or national aggressiveness to the type of food which is eaten. It may be argued that all races have inherited a potentially high level of activity—a very questionable assumption—and that the differences we observe are due to the failure to utilize a diet which will bring out this activity to its fullest extent. With the statement of this possibility the question comes to a standstill and we must await further experimental evidence.

Finally, it will be necessary to give brief consideration to the influence of education and custom. Among nations and races where

energy and progress are held in high esteem, it is to be expected that there will be superior achievement. Where such traditions are lacking, it should not be surprising to find apathy and indifference with proportionately lower productivity. Psychologists have in recent years been increasing the emphasis upon motivation so that it now seems clear we cannot ignore the vitalizing and energizing effects of a proper state of mind. May it not be that many psychological characteristics attributed to diet really are the expression of tradition and training? Social approval of activity and energy may do much to promote a spirit of aggressiveness. Although our present state of knowledge concerning motivation does not permit a quantitative evaluation, it is a principle which must be considered.

It is rather commonly believed that racial differences may be produced through the influence of diet. For example, it is generally supposed that meat-eating races are turbulent, warlike, and restless while vegetarian races are peaceful, calm, and of a mild disposition. Vegetarianism should not be confused with the problem of a high protein vs. low protein diet. Although it may be possible to devise a vegetarian diet adequate in proteins, it seems rather difficult to do so, and the long-time effects are open to suspicion. It would seem reasonable to suppose that if a vegetarian diet has considerable likelihood of being slightly defective it may simply depress the activity level and that this would account for the apparent peacefulness of people living on such a diet. The effect of an omnivorous diet is complicated by the possibility that meat may owe its stimulating quality to purins rather than to the high protein value. While a liberal protein diet seems to raise the level of basal metabolism and a vegetarian diet lowers it, the evidence does not seem to be clear that this is necessarily responsible for racial vigor and aggressiveness.

Studies on the spontaneous activity of rats point definitely to heredity as a factor. Active and inactive strains can be segregated through selection, and crossing of these strains seems to indicate that activity is a dominant character. In view of this experimental work it is necessary to consider the possibility that certain races are merely expressing a heritable tendency toward activity or its absence which has been erroneously assigned to diet.

Finally, the influence of education and custom cannot be entirely ignored. It is to be expected that achievement will be found among

people who hold energy and progress as virtues. Where such traditions are lacking we should not be surprised to find apathy and an indifference toward exertion. Until we are better able to assess the influence of motivation, dietary explanations of racial and national aggressiveness must be considered tentative.

It is difficult to summarize the question of racial temperament as related to diet without the liberal use of "ifs" and tentative statements. Anyone who attempts to maintain a wholesome regard for verifiable facts will find it rather difficult to draw conclusions with any great degree of confidence. Much of the literature concerning the influence of diet upon racial temperament is anecdotal in character—often interesting, perhaps even suggestive but hardly scientific. It is comparable to the anecdotal stage from which animal psychology emerged some thirty or forty years ago. The escape will be made in the same way, namely, through sound, fundamental experimentation. It is quiet possible that diet does influence racial temperament but until further evidence is gathered we may well be just a bit cautious.

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LA NOURRITURE ET LE TEMPÉRAMENT DE RACE

(Résumé)

On croit assez généralement qu'on peut produire des différences de race par l'influence de la nourriture, par exemple, que les races qui mangent la viande sont turbulentes, bellicoses et inquiètes tandis que les races végétariennes sont paisibles, calmes et d'une douce humeur. Le problème est compliqué par des questions telles que beaucoup de protéine et peu de protéine, protéine animale et protéine végétale, la grande probabilité qu'un régime végétarien ne sera pas suffisant et les effets possibles des purines dans la viande. L'idée existe depuis beaucoup d'années qu'un régime carnivore rendra les animaux féroces et sauvages mais qu'un régime végétarien les rendra dociles. Bien que les protéines semblent avoir quelque relation au niveau du métabolisme fondamental, il n'est pas clair que cela soit nécessairement responsable de la vigueur de race. Les études de l'activité des rats et des souris indiquent définitivement l'hérédité comme facteur. Vu ce travail expérimental il est possible que l'agressivité de race ou son absence soit une fonction de l'hérédité plutôt que de la nourriture. Il faut considérer l'influence de l'éducation et de l'usage. Il est douteux que le niveau de l'activité puisse être beaucoup levé au moyen de la nourriture quoiqu'il

semble probable qu'une nourriture insuffisante le baissera. Il est possible que la nourriture influe sur le tempérament de race mais à présent on ne peut être certain de cette conclusion.

Fritz

DIE DIÄT UND DAS RASSENTEMPERAMENT

(Referat)

Es wird ziemlich allgemein geglaubt, dass die Rassenunterschiede durch den Einfluss der Diät erzeugt werden können, z.B. dass das Essen von Fleisch unruhigen, kriegerischen Rassen eigen sei, während die vegetarischen Rassen friedlich, ruhig, und mild seien. Das Problem wird durch solche Fragen kompliziert wie hohes gegen niedriges Protein, Fleischprotein gegen vegetarisches Protein, die Möglichkeit, dass eine vegetarische Diät unzureichend sein wird, und die möglichen Wirkungen der Purinen in Fleisch. Die Idee hat sich seit Jahren durchgeschlagen, dass eine Fleischdiät Tiere wild machen wird, aber eine Gemüsediat wird sie zahm machen. Während Proteins ein Verhältnis zum Niveau des basalen Metabolismus zu haben scheinen, ist es nicht klar, dass dies notwendig die Ursache der Rassenstärke ist. Die Untersuchung der Tätigkeit der Ratten und Mäuse weisen entscheidend auf Vererbung als ein Faktor hin. Im Lichte dieser Untersuchung kann es möglich sein, dass Rassenangriffslust oder deren Mangel eine Funktion der Vererbung sei eher als der Diät. Der Einfluss der Erziehung und Gewohnheit darf nicht übersehen werden. Es ist zweifelhaft, dass das Niveau der Tätigkeit merkbar durch die Diät erhöht werden kann, obgleich es wahrscheinlich scheint, dass eine mangelhafte Diät sie erniedrigen kann. Es ist möglich, dass die Diät das Rassen Temperament beeinflusst, aber gegenwärtig können wir dieses Schlusses nicht sicher sein.

Fritz

THE CONTRADICTION BETWEEN THE FEELING-TONE OF POLITICAL PARTY NAMES AND PUBLIC RESPONSE TO THEIR PLATFORMS*

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I. THE PROBLEM STATED

The political behavior of an individual is presumably controlled by the same general forces which determine his belief and conduct in other phases of life. The correlation of .80 or more which Lund (6, 7) and others have shown to hold between the intensity of one's convictions and one's desire to consider them valid apparently points to the dominance of irrational emotion in shaping the outcome of reflection. In the field of overt activity, both the Freudian and behaviorist traditions emphasize the limited rationality of the regulating processes. Are these concepts helpful in interpreting the mass phenomena witnessed during elections and similar large-scale reactions?

The present paper is an attempt to see what measure of logic is involved in the political preferences of representative citizens. The word "logic" is here used in the special sense of fitness of means to ends. Specifically, do the masses of voters know what they want and do they know how to get it? If they are "radically-minded" will they vote for an avowedly "radical" party, or is early conditioning so effective that they cling to traditional labels in spite of their better knowledge?

II. METHOD AND PROCEDURE

A series of 20 statements pertaining to political, social, and economic issues was selected from Harper's (5) Social Study Blank in such a fashion that approval of one set of ten items signified a thorough-going radicalism, and approval of another group of ten

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indicated staunch conservatism (see Table 1). For the purposes of this investigation, "radicalism" was defined as any support of a collectivist policy such as public ownership of natural resources and the principal industries, extension of governmental functions in the field of social insurance, internationalism, etc. Conservatism was considered as any attitude tending to preserve the *status quo*, particularly those institutions maintaining the current methods of distributing wealth and power.

Personal interviews were arranged in their homes with 168 voters of Centre County, Pennsylvania, during the months of May and June, 1934. The subjects were 107 men (mainly farmers, miners, laborers, and small shopkeepers) and 61 women (housewives and clerks). The subjects were told that the investigation was concerned with ascertaining present public opinion on matters of interest to the average person. The anonymity of the responses was guaranteed by the interviewer who had no trouble securing and maintaining the *rapport* of the respondents.

The first step in the interview consisted in filling in the "opinion blank" which was done smoothly enough on most occasions; those who consumed an unusual amount of time in answering did not do so because they had difficulty in reaching a decision but apparently because of limited reading and vocabulary skill.

The second step involved a rating of 22 party names (see Table 2 for list), some real, some obsolete, and some fictitious, in the order of their *liking* for the names (2). Each party designation was printed on a plain white card. The complete set of 22 cards was handed to the subject with the following instructions.

On each of the accompanying cards you will find the name of a single political party. You probably do not feel the same about each one. *Assuming that the platforms of all these parties are the same, arrange the names on these cards in the order of your liking for them.* Try to answer for yourself the question, "Which name do I like most?" Then ask, "Which name do I care least for?" Finally, place all the remaining party-names in their proper position, according to your *general liking* for them.

Following each arrangement, the interviewer took a numerical record of the placement order and shuffled the cards before submitting

them to the next subject. For practically every subject, the entire process was an intrinsically pleasant and novel task, executed to the accompaniment of relatively animated conversation.

III. RESULTS

1. *Analysis of the Voters' Beliefs.* The 20 items used to measure radicalism-conservatism are reproduced below. The key is answered "correctly" from the radical standpoint, i.e., the + 's indicate the items a 100 per cent collectivist would approve and the 0's the statements he would disapprove; the complete "reactionary," on the other hand, would give diametrically opposed answers. The column headed "Percentage Radical Response" means the proportion of answers in harmony with a collectivist approach; e.g., item 2 was marked *plus* by 133 people and *zero* by 35, equivalent to 79 per cent radical response; item 16 by contrast yielded 132 against to 36 for, equivalent to 21 per cent "radicalism."

It is noteworthy that 55.5 per cent, or a clear majority, of the responses support a program of socialization with its promise of enhanced status to the working-class population and a corresponding reduction in the power of the privileged groups through a "redistribution of wealth." No large nor consistent sex differences occur, although the women appear to be a shade more "conservative" than the men. Only six out of the 20 statements give less than 50 per cent agreement with the collectivist position (items 3, 7, 9, 10, 13, and 16). Presumably these are the ones to be "soft-pedalled" by a shrewd politician.

Each of these exceptions to the rule supplies an interesting example of the effect of indoctrination. Ninety per cent of this predominantly radically minded group believes in the efficacy of the protective tariff (item 10), a view held by practically no economists of repute but tacitly or vigorously accepted by most American politicians of influence. Item 13 confirms this attitude, although it is significant that a change in proportion of approval occurs, suggesting that many of the respondents are aware of the abuses associated with a "high" tariff. Item 16 indicates the extent of opposition to the nationalization of the land, an opposition by no means confined to the farming element. Evidently, too, this group was not yet convinced that the mines should be operated by the government. The third item,

however, is astounding in its revelation that 65 per cent of these people would refuse licenses to teach in the public schools to persons who believe in socialism, whereas these very individuals themselves believe in what would, by every historical and economic criterion, have to be called socialistic proposals. It is doubtful if this can be attributed to a desire to preserve the non-partisan character of the educational system, for item 10 gave vehement approbation to teaching the virtues of the protective tariff. That the emotional coloring of the name is responsible for the reaction is supported by the responses to item 9, where 61 per cent of the subjects say they do not wish to be oriented toward a socialist society. Evidently, most of these voters want the specific things for which socialism stands, but they do not want to have them labelled that way.

That this interpretation is not only plausible but practically convincing is established by an analysis of the last four columns of Table 1. The degree of agreement with "radical" propositions is shown separately for four groups of individuals—those for whom "Socialist" has the highest or a relatively favorable hedonic tone, those for whom it is neutral or indifferent, and those to whom it is repugnant. A glance at the three averages shows (*mirabile dictu!*) only slight differences among them. In fact, in some things the violent anti-socialists are more liberal or "socialistic" than the pro-socialists (cf. items 4, 8, 12, 17, 18, 20). The sharpest and most clearly graded differences among the four groups occur in items 3 and 9, the ones which refer specifically by name to "socialism." When the averages are re-calculated, omitting these emotionally loaded statements, the difference between the "pros" and the "antis" completely disappears.

2. *The Feeling-Tone of Different Political Party Names.* The variation in the affective value of the 22 party designations employed in this inquiry was determined by the method of serial position. As in most order-of-merit studies, a descending scale of preference is used, i.e., the smaller the quantitative index the stronger the preference for that label. Table 2 contains the necessary statistical data on this point.

It will be remembered that the instructions given the subjects at the time of the original rating set them for a simple attitude of acceptance or rejection. The primitive or pure undifferentiated

TABLE 1
RESPONSES OF 168 VOTERS TO 20 STATEMENTS OF SOCIAL POLICY

"Radical" key	Percentage "Radical" response	Percentage		16 persons "Socialist" first place	70 persons who ranked "Socialist" in top five positions (1-5)	34 persons who ranked "Socialist" in middle twelve positions (6-17)	55 persons who ranked "Socialist" in bottom five positions (18-22)
		104 men	62 women				
(+) 1. If our people were willing to try the experiment fairly, government ownership of railroads would be for the best interest of the country.	52	53.83	45.14	50.00	45.70	58.80	49.09
(+) 2. The government should provide to all classes of people opportunity for insurance at cost against accident, sickness, premature death, and old age.	79	81.69	77.38	87.50	75.68	79.38	83.63
(0) 3. Licenses to teach in the public schools should be refused to persons believing in socialism.	35	31.71	40.30	93.75	62.83	26.46	3.64
(0) 4. On the whole in this country, the reward given manual laborers, as compared with the share taken by their employers, has been in just proportion to the services they have rendered.	75	74.00	77.38	56.25	64.26	91.14	78.17
(0) 5. The United States should avoid any extensive program of government ownership and operation in the generation, transmission, and distribution of hydro-electric power.	51	54.78	41.91	56.25	52.84	49.98	43.63
(0) 6. During the dangers of impending war our government should prevent any groups of citizens from opposing, through public discussions or through publications, the government's most thorough preparation for the possible conflict.	60	54.78	66.09	31.25	48.55	67.62	67.27
(+) 7. The development of the highest welfare of the country will require government ownership of important minerals.	40	45.17	29.02	43.75	32.84	41.16	41.81

TABLE 1 (continued)

"Radical" key	Percentage "Radical" response	10+ men	62 women	16 persons who gave "Socialist" first place	Percentages			
					70 persons who ranked "Socialist" in top five positions (1-5)	34 persons who ranked "Socialist" in middle twelve positions (6-17)	55 persons who ranked "Socialist" in bottom five positions (18-22)	
(0) 8. In the industries of this country proper opportunity and encouragement are usually given to laborers to progress from lower to higher positions of all grades of responsibility and reward.	66	67.27	64.48	50.00	65.69	67.62	65.45	
(+) 9. Our educational forces should be directed toward a more thoroughly socialistic order of society.	39	41.32	35.46	50.00	45.70	38.22	23.63	
(0) 10. For the sake of our continued prosperity teachers should endeavor to give students of suitable age a firm understanding of and belief in the protective tariff policy.	10	8.65	11.28	12.50	14.28	2.94	9.09	
(+) 11. Many more industries and parts of industries should be owned and operated cooperatively by the producers (all the workers) themselves.	61	65.35	54.81	81.25	77.11	64.68	43.63	
(+) 12. The power of huge fortunes in this country endangers democracy.	72	72.08	67.70	62.50	61.40	82.32	70.90	
(0) 13. The history of protective tariff legislation in this country is a worthy record of our government's impartial and efficient devotion to the welfare of all the people.	42	39.40	48.36	56.25	54.26	29.40	32.72	
(+) 14. A large majority of those who usually vote the Republican ticket are influenced in their voting more by ignorance and prejudice than by rational thought. (No comparison with other parties is implied.)	53	54.78	48.36	43.75	51.41	58.80	49.09	

TABLE 1 (continued)

"Radical" key	Percentage "Radical" response	10+ men	62 women	16 persons who gave "Socialist" first place	Percentages	70 persons who ranked "Socialist" in top five positions (1-5)	34 persons who ranked "Socialist" in middle twelve positions (6-17)	55 persons who ranked "Socialist" in bottom five positions (18-22)
(0) 15. Our radical papers exaggerate greatly when they say that 5 per cent of our population owns 95 per cent of all the property in this country.	59	65.35	48.36	75.00	64.26	64.68	47.27	
(+) 16. The development of the highest welfare of the country will require governmental ownership of the land.	21	28.83	9.67	25.00	24.28	17.64	20.00	
(0) 17. There is no probability that the means of forming public opinion (especially the schools and the press) will be unfairly influenced or controlled by the wealthy interests.	79	77.84	80.60	62.50	69.97	88.20	81.81	
(0) 18. If every nation were as wise and just as the United States there would be no danger of more great wars.	60	58.62	61.26	50.00	57.12	58.80	63.63	
(+) 19. By legislative and executive action, government in this country has often given manufacturing and commercial interests special advantages seriously detrimental to other important interests.	82	76.88	87.05	87.50	79.98	82.32	83.63	
(+) 20. The man, whose vacant lots in a thriving city increase many fold in value because the city's homes and business grow up around those lots, should, in justice, be required to repay in taxes a large part of the unearned profits to the city that created the increased values.	74 55.5%	72.08 56.22	77.38 53.60	62.50 56.88	67.12 55.76	85.26 57.77	74.54 50.64	
Mean (exclusive of items 3 and 9) =				(55.21)	(55.93)	(60.60)	(55.85)	

TABLE 2

THE RELATIVE FEELING-TONE OF VARIOUS PARTY NAMES (BASED UPON THE RATINGS OF 168 "RURAL" VOTERS)

Party name	Crude mode	Mean rank	Median rank	S.D.	Proportion of first mentions (in percentage)
Commonwealth	13	12.7 (14)	13.33 (14)	2.91	0
Communist	22	21.3 (22)	22.21 (22)	1.35	0
Conservative	18	14.5 (17)	16.0 (17)	4.6	0
Constitution	14	13.67 (16)	14.38 (16)	3.0	0
Democratic	2	4.99 (3)	2.77 (2)	4.3	28
Farmer-Labor	3	4.08 (1)	4.05 (3)	2.7	4
Federalist	13	12.8 (15)	13.52 (15)	3.4	0
Independence	11	11.7 (13)	12.31 (13)	3.4	0
International	18	17.1 (19)	18.0 (19)	2.6	0
Labor	4	4.1 (2)	4.43 (4)	1.9	4
Liberal	12	11.6 (12)	11.67 (12)	4.4	0
Liberty	10	10.7 (10)	10.83 (10)	3.7	0
National Welfare	11	11.2 (11)	11.33 (11)	3.5	0
Patriots	7	10.1 (8)	10.0 (9)	3.8	0.6
Peoples	8	8.96 (7)	9.35 (8)	3.3	0
Progressive	7	8.43 (6)	7.93 (7)	4.2	0.6
Prohibition	17	15.5 (18)	17.50 (18)	4.8	0.6
Radical Reform	20	18.98 (20)	20.05 (20)	2.8	0
Republican	1	5.23 (4)	1.95 (1)	6.4	52
Socialist	2;20	10.16 (9)	7.33 (6)	7.8	10
Technocratic	21	20.3 (21)	21.16 (21)	1.9	0
Workers	4	5.4 (5)	5.24 (5)	2.9	0.6

"aura" surrounding the name was all that was sought here in much the same way that a modern advertiser hits upon a brand name which will be pleasing to his potential customers (8).

The Farmer-Labor designation (conspicuously successful in Minnesota) emerged with the highest mean position and a relatively low variability. This high rank is all the more impressive when one remembers that a party with this name has never had any candidates in the region from which these records were secured. The ease with which this hyphenated phrase can be understood, together with the undeniable "ethnocentric" orientation of large numbers of the population who have economic and occupational affinities with the groups referred to by this title, probably explains the preferred place assigned this name. As expected, the Communist label stood consistently at the bottom, suggesting that this term has been given a pretty thorough "black eye" through the context in which it ordi-

narily appears in the American press and other sources of publicity.

The mean by itself gives one only an imperfect picture of the affective value of these titles; as is often the case with statistical material of this nature, the median supplies some helpful supplementary information. This is particularly true where discrepancies between the two types of averages occur. For instance "Republican" stood fourth in mean position but first in median rank. This fact, in conjunction with the large standard deviation, suggests a heavily skewed curve, which is exactly what one finds, for 88 out of 168 gave "Republican" first place. The curve falls in the class of negative-J curves, considered by Allport (1) as *prima facie* evidence of sharply institutionalized behavior, because they show a stable "halo" effect. The histogram for the Communist label yields a pronounced positive-J curve, 109 out of the 168 raters placing it 22nd or last.¹ It is obvious in these two extreme instances that there must exist strong social forces to mould this stereotyped behavior. Where "institutionalization" is as yet inoperative (as in the case of the fictitious or now historical party names of Table 2), the frequency curves approach normality. This fact is illustrated by the histograms for "National Welfare" and "Federalist." Evidently all names, unless subjected to special praise and blame, follow the probability distribution.

The curve for "Socialist" is interesting because it was the only pure bimodal distribution obtained. The mean is, therefore, a highly artificial and unreal quantity in this case, since it merely represents the cancellation of two extremes. The mean male rank for "Socialist" is 10.27, the mean female position, 10.59. The median is little better for the purpose of actually portraying the concrete situation, but the fact that two widely separated modes are prominent in the chart is highly symptomatic. The variability of this label is the highest in the list. Apparently, the term "Socialist" is something toward which people find it hard to be neutral—one is either sharply for or decidedly against. That this interpretation is

¹The terms "positive-" and "negative-J curve" are not very felicitous designations for these lines. If one follows the convention of having the values of the abscissa increase as one moves to the right on that axis, what I have called a *positive-J* curve will be *negatively* skewed because the lower frequencies taper off to the left; *per contra*, a *negative-J* (perhaps better termed an "L-curve") tails off to the right in a *positive* skew.

TABLE 3

TYPES OF FREQUENCY CURVES OBTAINED FOR DIFFERENT PARTY LABELS

Normal probability curve	Positive-J curve	Negative-J curve	Bimodal
Commonwealth	Communist	Democratic	Conservative
Constitution	International	Farmer-Labor	Prohibition
Federalist	Radical Reform	Labor	Socialist
Independence	Technocratic	Republican	
Liberal		Workers	
Liberty			
National Welfare			
Patriots			
Peoples			
Progressive			

a plausible one is strengthened by the fact that "Prohibition" and "Conservative" also reveal slight bimodalities; apparently, an all-or-none type of attitude is operative with these terms as well, although with lessened intensity.

A summary of the form of distribution for each of the party names in the above list is given in Table 3.

Reproductions of the actual frequency curves for some of the more prominent party names in each of these four classifications are given in Figure 1.

IV. REGIONAL COMPARISONS

In order to see if the unexpectedly high agreement of this sample population with a collectivist program was a local geographic peculiarity, it seemed necessary to repeat the inquiry in the same district with different respondents, investigators, and test forms. The new inquiry sheet had a "split-half reliability" of .83 and consisted of 20 statements derived from the state and national platforms of the Socialist Party; it also gave the subject an opportunity to indicate his neutrality on some debatable proposition, an option not provided in the Harper schedule first used.

New data were then secured from 173 persons in Centre County, Pennsylvania, an agricultural region in the heart of the state, and from 83 adults in Carbon County, Pennsylvania, a mining district in the eastern part of the state. The combined results appear in Table 4. A record of "omissions" is not reproduced here as they were relatively of

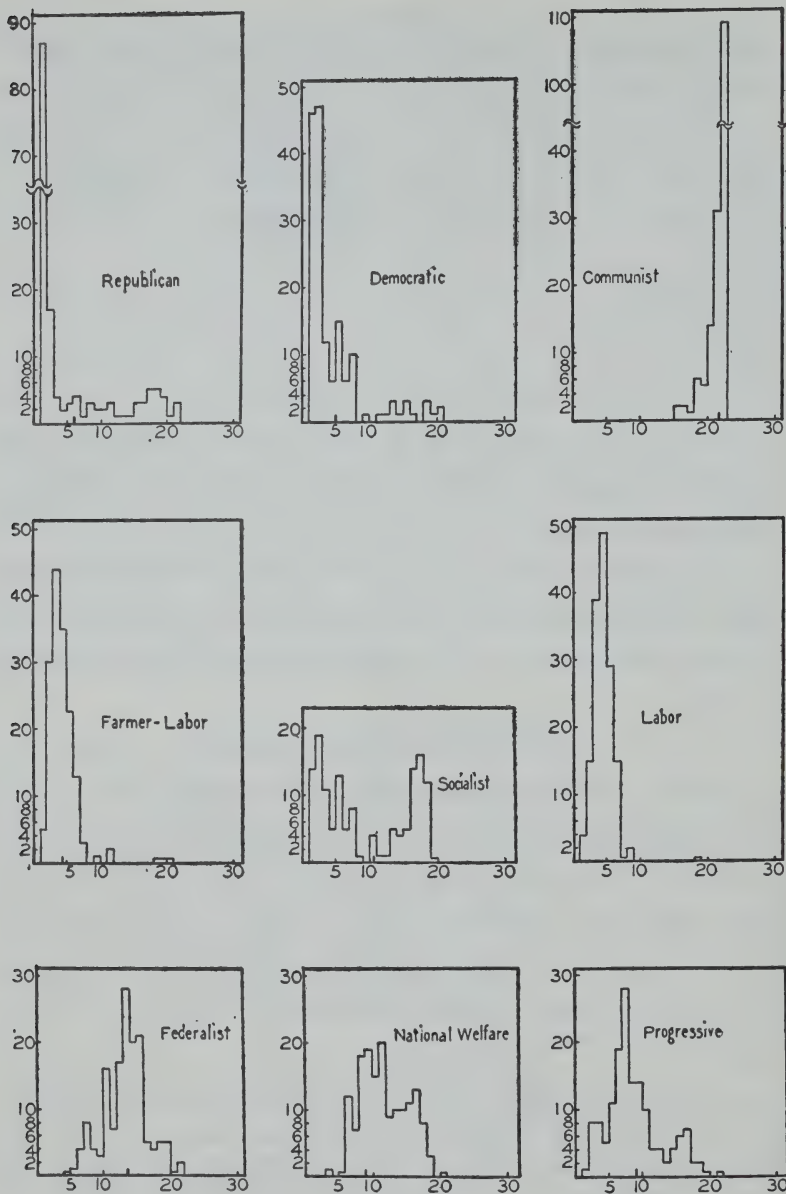


FIGURE 1

SAMPLE FREQUENCY CURVES REPRESENTING THE HEDONIC TONE OF DIFFERENT PARTY LABELS ACCORDING TO RATINGS MADE BY 168 VOTERS

The small vertical cutting the abscissa indicates the mean for each distribution. Numbers along the abscissa refer to ranks or positions; numbers along the ordinate refer to frequencies.

TABLE 4
THE RELATIVE RADICALISM OF TWO WIDELY SEPARATED PENNSYLVANIA
COUNTIES

	Approved		Neutral		Disapproved	
	Centre	Carbon	Centre	Carbon	Centre	Carbon
1. No man should be permitted to have an income of more than \$25,000 a year until such time as the average wage earner receives at least \$3,000 a year.	57.5	79.51	7.51	7.22	34.6	13.25
2. Cheaper electric light and power could be had if the industry were owned and operated by the government.	52.6	69.75	1.56	18.07	32.2	12.04
3. Old and disabled people should be adequately pensioned and protected at public expense without humiliation to themselves or their relatives.	85.5	95.18	.52	2.4	8.69	2.4
4. No adult workman should be paid less than \$100 monthly for his services.	65.3	81.95	6.93	6.02	28.9	10.83
5. All railroads should be owned and managed by the Federal Government.	33.5	50.61	19.6	24.09	41.6	25.3
6. All school teachers should be hired and promoted according to the merit system or universal Civil Service.	61.2	56.63	17.3	32.53	17.3	8.43
7. Private manufacture of arms and amunition must be abolished.	46.6	48.08	15.0	12.04	25.4	39.73

TABLE 4 (*continued*)

	Approved		Neutral		Disapproved	
	Centre	Carbon	Centre	Carbon	Centre	Carbon
8. Military training of highly impressionable youngsters in schools and colleges must be stopped.	36.9	15.65	24.2	21.67	36.9	62.61
9. No gifted boy or girl should be denied the advantages of higher education just because his parents lack the money to send him on.	90.7	86.69	4.04	6.02	2.09	7.22
10. The coal mines of Pennsylvania should be taken over by the national government and run for the benefit of all the people.	35.8	55.38	18.4	22.88	43.9	21.67
11. Company unions should be abolished and only bona fide trade unions permitted.	57.8	77.06	20.8	7.22	19.0	14.44
12. There is no reason why the U. S. Steel Corporation or General Motors should not be controlled by the workmen in these firms.	24.8	49.36	19.0	30.1	53.1	19.26
13. All banks and insurance companies should be run on a non-profit basis like the schools.	34.1	63.81	10.4	15.65	42.0	19.26
14. Higher income taxes on people with incomes of more than \$10,000 a year should be levied immediately.	69.3	91.5	11.5	3.61	16.1	4.82

TABLE 4 (*continued*)

	Approved		Neutral		Disapproved	
	Centre	Carbon	Centre	Carbon	Centre	Carbon
15. The only way most of us will ever be able to live in decent homes is for the government to build them for us on a large-scale basis.	32.9	67.42	10.4	14.44	53.7	15.65
16. All farm mortgages should be taken over by the Federal Government at an interest rate not in excess of 3 per cent.	54.3	79.51	18.4	8.43	23.6	9.63
17. Children under 18 should not be employed as long as many adults are out of work.	71.6	74.65	8.69	14.44	17.9	10.83
18. We would all enjoy better health if doctors and dentists were public salaried officials like policemen and firemen.	49.1	67.42	10.4	14.44	34.1	18.07
19. It is bad for the country to have the newspapers and radio controlled by Big Business for its own private profit.	41.6	75.85	19.6	16.86	34.1	6.02
20. It is criminal to destroy wheat and cotton when millions of Americans are undernourished and poorly clothed.	84.9	89.1	5.2	0	6.93	10.83
Means	53.7	68.76	12.1	16.9	28.1	16.63

the same low order of magnitude, 2.5 per cent in the Carbon County group and .66 per cent in the Centre County group.

These figures confirm fully the general impression obtained earlier. It will be seen that the mining group is distinctly the more "radical" of the two. On a matter of vital economic concern to them (item 10, advocating public ownership of the coal mines), 55 per cent of the mining folk favor government operation; they are, however, conspicuously less "pacifist" in sentiment than the farming population (see item 8). Both groups thus give evidence of supporting a "nationalistic" variety of socialization, an interpretation strengthened by their attitude on the tariff (cf. item 10 in Table 1).

An incidental finding of interest to academic people may also be reported. For local reasons which need not be developed here, an addendum was placed on the second inquiry in an effort to determine the public attitude toward a professor's participation in political affairs, concerning which a fair amount of discussion has appeared in the press. Table 5 shows that the professor is not a political pariah, but that people as a whole have a moderately favorable attitude toward his public activities.

TABLE 5

RESPONSES OF 173 CITIZENS OF CENTRE COUNTY, PA., ON THE QUESTION OF A PROFESSOR'S FITNESS FOR OFFICE

I feel that a college professor is fitted to hold office:	Percentage of agreement
1. Never	5.20
2. Rarely	16.1
3. As well as any other man	41.0
4. Very satisfactorily	20.8
5. Better than a man in any other line of work	9.82

A recheck of the affective order of political labels shown in Table 2 was undertaken by obtaining similar rankings during January, 1935, from 140 middle-class residents in Hatfield and Lansdale, suburban communities about 30 miles from Philadelphia. Textile and steel mills constitute the chief industries of these towns. The results of this survey are shown in Table 6 which should be compared with Table 2.

The affective order of the parties and the shape of the frequency curves is almost identical in both cases; the *rho* correlation between

the mean ranks of both series is .87 and justifies one in attributing satisfactory reliability to this technique despite the difference in the temporal (half-year interval) and spatial (communities 200 miles apart) conditions. No further comment on Table 6 seems neces-

TABLE 6

THE RELATIVE HEDONIC VALUE OF DIFFERENT PARTY NAMES (BASED UPON THE RATINGS OF 140 "URBAN" VOTERS)

Party	Crude mode	Mean rank	Median rank	S.D.	Percentage of first mentions
Commonwealth	13	13.2 (15)	13.5 (15)	2.48	0
Communist	22	21.4 (22)	21.45 (22)	1.45	0
Conservative	17	17.4 (20)	18.77 (19)	1.99	0
Constitution	15	14.2 (17)	14.78 (16)	1.74	0
Democratic	2	2.31 (1)	2.71 (1)	1.13	25.6
Farmer-Labor	3	3.00 (2)	3.13 (2)	2.06	5.7
Federalist	12	12.4 (14)	13.02 (14)	1.38	0
Independence	11	11.28 (12.5)	11.86 (12)	3.97	0
International	16	14.08 (16)	14.9 (17)	3.5	0
Labor	4	5.76 (3)	4.9 (3)	2.4	0
Liberal	11	11.20 (11)	12.19 (13)	2.84	2.8
Liberty	10	11.09 (9)	10.87 (10)	2.95	0
National Welfare	11	11.28 (12.5)	11.55 (11)	2.84	0
Patriots	2	6.03 (4)	6.11 (5)	4.74	0
Peoples	7	7.16 (6)	6.49 (6)	1.40	5.7
Progressive	8	9.63 (8)	7.77 (7)	5.77	0
Prohibition	17	16.01 (19)	17.48 (18)	2.2	0
Radical Reform	19	18.09 (21)	20.39 (21)	3.96	0
Republican	1	7.97 (7)	8.12 (8)	4.11	37.1
Socialist	20	11.11 (10)	9.87 (9)	3.63	22.8
Technocratic	21	15.9 (18)	19.1 (20)	3.6	0
Workers	5	6.68 (5)	5.32 (4)	5.9	0

sary except to call attention to the fact that "Socialist" has the same mean as "Liberal" or "National Welfare," neither of which can be considered intrinsically "bad" names. All three labels fall slightly on the favorable side of the "indifference point" represented by the total group response; nevertheless, they fall below nine other labels in hedonic value.

V. CONCLUSIONS

Although this study is sharply limited by geographical restrictions and relatively small samplings (the inquiry should be repeated in other states than Pennsylvania), there appears to be a clear-cut discrepancy between what most American citizens want and the political

channels through which they normally seek to attain it. The parties which are committed to the establishment of a "collectivist" society and the "economy of abundance" (which the bulk of the voters evidently want when the details of such a program are presented) are the very ones to whose names an attitude of hostility or indifference is most marked (cf. the rank of "Communist," "Technocratic," and, somewhat ambiguously, "Socialist"). Briefly stated, the masses seem to like "socialism," but to dislike "socialists." Other anti-capitalist labels, however, stand very well indeed. The "Farmer-Labor" designation held third place, followed closely by "Labor" and "Workers." Whether this preferred status is due to the superior simplicity and familiarity of these words, greater ease of pronunciation, some mysterious factor of advantage traceable to the emotional overtones of language forms, or to the freedom from deliberate misrepresentation on the part of political opponents from which the others have obviously suffered, is difficult to say. Perhaps all these factors combine to some extent in the producing of the final result.

The dominant old-line major parties, "Republican" and "Democratic," occupy first and second place (on the basis of modal position which is the decisive statistical factor in determining the outcome of elections), despite the fact that neither of them is officially committed to the socialization of industry, which, by implication, the greater number of those interviewed really desired.

The facilitating or inhibiting effects which a good or poor name may have upon the fortunes of a political party are difficult to isolate from the complex historical circumstances which condition the success or failure of any mass movement. The label "Republican" was a term of reproach during the French Revolutionary period (and still is in many European countries), but in most of the United States since 1860 it has been the symbolic climax of "respectability." Curiously enough, the followers of Jefferson were for a long time labelled both "Democrats" and "Republicans," the former term winning out after a generation of uncertainty (4).

The "good will" that traditionally surrounds an older name probably explains why political rebels are so frequently torn between a desire to start afresh under a new banner and an equally strong desire to make quicker progress in changing the folkways by using the momentum inherent in existing customs and loyalties. There is no

doubt but that old parties change their character with the passage of time since they are not exempt from the biological law, "adapt or perish." The history of language shows plainly enough that words lose and acquire meanings: it is an experimental question, however, whether clear thinking and the march of ideas are advanced more by redefining old terms ("boring from within") or inventing new ones.

From this study it appears that Socialist *conceptions* have won wide acceptance among the rank-and-file voters, but the Socialist *label* itself has not yet become "institutionalized." The beginnings of this process, however, are discernible in the pronounced bi-valent feeling-tone it displays. Presumably, there is nothing inherently objectionable in the term, since, in France, the Radical Socialists² have long been a leading party. In German-speaking countries, the word "Socialist" has been in good standing among the masses; in fact, the reactionary Nazi movement called itself the *National-Sozialistische-Deutsche-Arbeiter-Partei* in order to appeal to as many different "name" loyalties as possible in one cumbersome unit.

One may dislike a party not because of its objectives but for its strategy and tactics. It has been shown that "radical" parties as such are not publicly rejected because of their aims—and in the case of the Socialist Party at least, the methodology of influencing votes and achieving power is that of peaceful education, persuasion, and propaganda, a procedure as ethically impeccable as one could wish. In the case of Socialism, the deleterious influence of the name appears to be most marked—a fact which has been recognized by Socialists themselves and other "left-wing" observers (3, 9). Presumably the main effect of an "unpopular" name is to delay the advent of the "popular" measures that it symbolizes. Continued publicity effort and the force of circumstances may bring about Socialism in the United States by the year x , whereas this study indicates that the same objective situation might be attained sooner, in $(x-n)$ years, by a judicious change in designation.

The population of this study apparently would prefer to have the Republican Party be the vehicle for introducing socialism to America.

²For the American unfamiliar with French politics, it should be emphasized that this group is really neither "radical" nor "socialist," but a Victorian "liberal" party.

Whether this behavior is as unrealistic as the belief that the Pope might be converted to Protestantism (as Luther appears to have hoped originally) can only be determined by future development. Within the limits of certainty to which this investigation is obviously confined, it appears to confirm the guess of many that the "Farmer-Labor" designation (or perhaps mere "Labor," as in England) is the most suitable means for securing popular sanction in establishing a collectivist state. To some this may seem like a concession to the multitude's inability to distinguish substance and shadow, but if changing one aspect of a reaction-pattern gets a desirable thing done (as inducing a child to finish his oatmeal by uncovering the picture at the bottom of the dish), then a sense of relative values ought to dictate the nature of the technique employed.

VI. SUMMARY

Interviews were arranged with 168 representative citizens of Centre County, Pennsylvania, who reacted to 20 statements of governmental policy involving significant social and economic problems. These were so selected that definite approval of ten specific items would indicate thoroughgoing "radicalism"; complete "conservatism" would be revealed by corresponding agreement with the remaining ten propositions. A clear majority, or 55.5 per cent of the respondents, reacted in accordance with the "radical" viewpoint.

The subjects then ranked 22 real and fictitious party names in the order of their "liking" for the terms. The following descending order of preference based upon the median positions was obtained: Republican, Democratic, Farmer-Labor, Labor, Workers, Socialist, Progressive, Peoples, Patriots, Liberty, National Welfare, Liberal, Independence, Commonwealth, Federalist, Constitution, Conservative, Prohibition, International, Radical Reform, Technocratic, and Communist.

It seems that the parties which would be most likely to introduce a "collectivist" society (which the mass of voters evidently want when the details are presented) are the very ones to which an attitude of rejection or indifference is most marked (cf. the rank of "Communist," "Technocratic," and somewhat ambiguously, "Socialist"). The other anti-capitalist labels, however, stand very well indeed, e.g., the "Farmer-Labor" designation held third place, followed

closely by "Labor" and "Workers." The dominant old-line major parties, "Democratic" and "Republican," rank near the top, despite the fact that neither of them is committed to the socialization of industry, which, by implication, the greater number of those interviewed really desired.

Pronounced "institutional behavior" appears in the sharply positive J-curves for "Communist," "Technocratic," and "Radical Reform," and in the equally negative J-curves for "Farmer-Labor," "Labor," "Workers," "Democratic," and "Republican." Significant bimodal curves were derived for "Conservative," "Prohibition," and especially "Socialist." The remaining "neutral" labels, of which "Liberal" and "National Welfare" are typical, yielded ordinary "normal" distributions.

A repetition of this survey with a different test form in Carbon County and the Philadelphia suburban area gave full confirmation of the initial findings.

Apparently a sharp discrepancy exists between what most American citizens want and the political channels through which they seek to attain it.

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LA CONTRADICTION ENTRE LE TON ÉMOTIF DES NOMS DES PARTIS POLITIQUES ET LA RÉPONSE PUBLIQUE À LEURS PLATES-FORMES

(Résumé)

On a fait des interviews avec 168 citoyens représentatifs de Center County, Pennsylvanie, lesquels ont réagi à vingt déclarations de politique gouvernementale où il s'agit de problèmes signifiants sociaux et économiques. Une vraie majorité, ou 55,5% de ceux qui ont répondu, ont répondu d'accord avec le point de vue "radical."

Ensuite les sujets ont mis en ordre de rang 22 noms réels et fictifs des partis selon leur "préférence" pour les termes. On a obtenu l'ordre descendant suivant de préférence basé sur les positions médianes: Républicain, Démocrate, Fermier-Ouvrier, Ouvrier, Travailleurs, Socialiste, Progressif, Peuple, Patriote, Liberté, Bien-Etre National, Libéral, Indépendance, République, Fédéraliste, Constitution, Conservateur, Prohibition, International, Réforme Radicale, Technocrate, Communiste.

Les partis qui semblent le plus inclinés à introduire une société "collectiviste" (évidemment désirée par la plupart des voteurs quand on leur en présente les détails) sont ceux à l'égard desquels une attitude de réjection ou d'indifférence est la plus marquée (par ex., le rang de "Communiste," "Technocrate," et d'une façon un peu ambiguë, "Socialiste"). D'autres étiquettes anti-capitalistes, cependant, ont un très bon rang, par ex., la désignation "Fermier-Ouvrier" s'est trouvée en troisième rang, suivi de près d'"Ouvrier" et "Travailleurs." Les partis principaux, "Démocrate" et "Républicain," se trouvent près du sommet, quoique ni l'un ni l'autre soient dévoués à la socialisation de l'industrie que désirent réellement par implication la plupart des interviewés.

Un "comportement institutionnel" marqué se montre dans les J-courbes positives pour "Communiste," "Technocrate," et "Réforme Radicale," et dans les J-courbes négatives au même degré pour "Fermier-Ouvrier," "Ouvrier," "Travailleurs," "Démocrate" et "Républicain." On a dérivé des courbes signifiantes bimodales pour "Conservateur," "Prohibition," et surtout "Socialiste." Les autres étiquettes "neutres," dont "Libéral" et "Bien-Etre National" sont types, ont cédé des distributions ordinaires "normales."

Il existe une grande contradiction, paraît-il, entre ce que désirent la plupart des citoyens américains et les moyens politiques qu'ils cherchent pour l'obtenir.

Une répétition de cette étude avec une différente forme de test dans Carbon County et les faubourgs de Philadelphie a confirmé complètement les premiers résultats.

HARTMANN

DER WIDERSPRUCH ZWISCHEN DEM GEFÜHLSTON DER POLITISCHEN PARTEINAMEN UND DER ÖFFENTLICHEN REAKTION AUF IHR PARTEIPROGRAMM

(Referat)

Interviews mit 168 vertretenden Bürgern der Centre County, Pa., die auf zwanzig Auseinandersetzungen der Regierungspolitik reagierten, die sich auf bedeutsame soziale und ökonomische Probleme bezogen. Eine klare Mehrzahl oder 55,5% der Antwortenden gaben Antworten in Übereinstimmung mit dem "radikalen" Gesichtspunkt.

Die Vpn. rangierten 22 wirkliche und erdichtete Parteinamen in der Ordnung, wie sie ihnen gefielen. Die folgende Reihenfolge ihres Vorranges wurde erhalten, die auf Grund der Mittelstellungen basiert wurden: Republikaner, Demokrat, Farmer-Arbeiter, Arbeiter, Arbeitende, Sozialist, Fortschrittspartei, Volkspartei, Patriotenpartei, Freiheitspartei, Nationalwohlstandspartei, liberale Partei, Unabhängigkeitspartei, bürgerliche Partei, Bundespartei, Staatsverfassungspartei, konservative Partei, Prohibitions-partei, Internationale, radikale Verbesserungspartei, technokratische Partei, kommunistische Partei.

Die Parteien, welche am wahrscheinlichsten eine kollektive Gesellschaft (welche die meisten Stimmenden wollen, wenn die Einzelheiten angegeben werden) einführen wollen, sind diejenigen, bei denen eine Ansicht der Ablehnung oder Gleichgültigkeit am auffallendsten ist (vgl. den Stand der "kommunistischen Partei," der "Technokratischen Partei," und etwas undeutlicher des "Sozialisten"). Andere kapitalfeindliche Namen aber stehen sehr gut, z.B. die Farmer-Arbeiterpartei steht an dritter Stelle, worauf folgt die Arbeiterpartei und die Arbeitenden. Die Hauptparteien, die demokratische und republikanische, stehen hoch, trotz der Tatsache, dass keine von beiden sich zur Sozialisierung der Industrie verpflichtet ist, welche die meisten der Vpn. wirklich wollten.

Ausgesprochenes Ordnungsverhalten erscheint in den scharf positiven J-Kurven für "Kommunist," "Technokrat," und "radikale Verbesserungspartei," und in den gleich negativen J-Kurven für "Farmer-Arbeiter," "Arbeitende," "Demokrat," und "Republikaner." Bedeutsame zweimodale Kurven wurden von der "konservativen Partei," "Prohibitionspartei," und besonders von der "Sozialistenpartei" abgeleitet. Die übrigen "neutralen" Bezeichnungen, deren die "liberale Partei" und die "nationale Wohlstandspartei" Beispiele sind, ergaben gewöhnliche "normale" Verteilungen.

Scheinbar besteht ein scharfer Widerspruch zwischen dem, was die meisten amerikansichen Bürger wollen und den politischen Wegen, durch die sie dazu zu erlangen suchen.

Eine Wiederholung dieses Verfahrens mit einer verschiedenen Testform in Carbon County und dem Philadelphia Vorortgebiet ergab eine vollkommene Bestätigung dieser Befunde.

HARTMANN

SHORT ARTICLES AND NOTES

CAN PERSONALITY BE MEASURED?*

Discussed from a psychoanalytic standpoint

G. V. HAMILTON

Although Freud proceeds from a theory of psychical determinism which requires him to postulate antecedent unconscious processes in accounting for such end-products as conscious direct experience and observable behavior, he has always looked beyond his own specifically delimited field of inquiry for contextual facts. Thus he looks to phylogenetics and ontogenetics as offering him vantage points from which to see his analytic findings in broad perspective, and to physiology, anthropology, and sociology for new orientations to his material. For this reason those of us who have become convinced that his explanatory formulations check with our own clinical findings do not believe that because we are Freudians our work needs to be regarded as discontinuous with that of men in related fields. It is at least my personal belief that his theories, his findings, and even his terminology are assimilable to those of what is ordinarily called scientific psychology. A defense of this statement calls for an immediate examination of a few major concepts. This in turn will explain why, in my opinion, personality conceived as a system of dynamisms can be indirectly but fruitfully measured by methods which scientific psychology is already equipped to devise and apply.

From the standpoint of the present discussion personality is a system of interacting dynamisms which function recurrently as ego habits and which, in their total balance (dynamic configuration), are characteristic of the individual under observation. Since the various dynamisms are conceived in terms of conscious and unconscious direct experience, and are dealt with as such in psychoanalytic theory, personality as I have just defined it is not directly measurable. That it is indirectly measurable at biochemical, neural, and behavioristic levels of organic function is apparent in what follows, I believe.

Freud's observations ultimately enabled him to recognize certain functional lines of cleavage which define three great functional systems at the psychical level of organic reaction. Two of these systems are of post-natal development, but one, which is called the Id, is present and in active function at birth. It is within this functional system that there arise impulses which

* On June 21, 1934, the Western Psychological Association held a symposium at the University of California to discuss the question, "Can Personality be Measured?" The above paper was read in response to a request that the writer discuss it from a psychoanalytic standpoint.

have their initial direction toward discharge as conscious direct experience and as behavior. They are commonly designated "instincts" in psychoanalytic literature, but I so habitually refer to them as primary impulses when, as an exbehaviorist, I think of them, that I propose to do so here. The force, or energy, of these primary impulses is called libido. No matter how or in what direction it is ultimately discharged, libido is always reducible to this definition.

The dynamic structure of the Id is such that all the impulses released within it are initially directed toward pleasurable discharge only. For this reason Freud asserts that Id functions are solely governed by the pleasure principle. This assertion is subject to such qualifications as are implied in what he has to say about the repetition tendency, but to discuss it here would lead us too far afield and would not essentially modify the general contention of the present argument.

The individual survives for longer than the period during which he is accorded all the subsidies of infancy only because, in the course of his development, his primary impulses are subject to redirection with reference to something more than immediate pleasure. Their final discharge must have reference to the demands, expedencies, and other limitations of external reality. Their control and, when it occurs, redirection is effected by a functional system which is called the Ego. This system sustains a direct reactive relationship to external reality as well as to the Id. As mediator between the two it is controlled by both the pleasure and the reality principles of Freud's definition.

While the Ego is developing its controlling and redirective functions with reference to cats that scratch, candles that burn, and golf balls that cannot be swallowed, it contacts persons who seem to withdraw their benevolence whenever they make disapproving appraisals of its methods of discharging the impulses received from the Id. In the Ego's efforts to avoid such appraisals and to win approving ones it annexes to itself the moral governors of its world by processes known as identification and introjection. Thus a third system arises; Freud calls it the Superego. Objectively speaking, this is a system of more or less negative conditionings which soon come to function at an unconscious level. For this reason psychoanalysts sometimes refer to the Superego as the unconscious conscience. Freud speaks of it as stupidly categorical and inflexible. This is to be expected, since it consists of habit tabus which are acquired when the individual is very young and very uncritical.

Psychoanalysis makes much of the anxiety and the unconscious sense of guilt which are not only disclosed by dreams and neurotic symptoms, but by the myths, legends, religious beliefs, and religious rites of all races. It finds a satisfactory explanation of anxiety and the sense of guilt in what we know about the interactive relationship of the Ego to the other two systems.

When an Id impulse is reacted to by the Ego as carrying no threat of conflict with the environment, and when it does not touch off a moral tabu within the Superego, its initial direction of discharge tends to remain unaltered. It is spoken of as ego-syntonic. If it threatens conflict, either with the environment or with Superego tabus, it is ego-dystonic. Ego-dystonic impulses probably always incite some degree of anxiety within the unconscious Ego, and if they encounter moral tabus there is also an attending sense of guilt. Probably most anxiety and guilt reactions fail to extend upwards to the conscious level in recognizable forms.

Id, or primary, impulses which are ego-dystonic will either be held back by the Ego or redirected along acceptable paths of discharge. To quote Healy and his co-authors (2, p. 198), "The very specific processes by which the unconscious Ego attempts to take care of, or to defend itself against, Id urges, desires, wishes, are properly to be discussed under the head of dynamisms." Merely to list and define all of the many dynamisms thus far identified by psychoanalytic research would require more time than is allotted to this presentation; hence I will limit myself here to the purely re-directive ones, and define only three of them by giving examples of how they operate.

One of my patients had recurring dreams of dining with his mother in disreputable restaurants. There was always some degree of attending anxiety and on the day following there would be a vague sense of guilt. His free associations finally made it apparent to him that the primary impulses underlying these dream phantasies were identical in kind with impulses which, in other dreams, were discharged as frankly erotic phantasies involving unrelated females. In the dreams involving his mother the pathways of discharge had been shifted from genitals to mouth. This kind of redirecting dynamism is called displacement.

Another patient, suffering from a paranoid psychosis, complained that other men made frequent and public homosexual advances to him, which he interpreted as evidence that they were trying to make the world believe that he, himself, was an invert. Prolonged analysis brought him the realization that he was projecting his own unconscious homosexual impulses onto others. The dynamism known as projection was involved here.

The third, an over-cleanly patient who had an excessive repugnance to dirt, had many dreams which disclosed coprophilic impulses. The dynamism which effected such redirection of these impulses is called reaction-formation.

These and all other known types of dynamisms are present in normal waking life as well as in dreams and abnormal mental life. Psychoanalysts believe that they and the primary impulses which incite their development must be understood by anybody who undertakes to conceive personality as a psychodynamic manifestation.

An adequate discussion of general types of personality would require a

separate monograph, but there are two, the anal and the oral, which must be mentioned in passing because they correspond to what Jung has in mind when he speaks of introverts and extroverts. These are further divisible into a great variety of specifically different types, which is to be expected when we take into account the various factors that may enter into the determination of any given personality. A consideration of some of these factors will disclose to the scientific psychologist some of the possibilities for personality measurement which occur to a psychoanalyst.

1. The absolute as well as the relative strength of any given primary impulse is logically the first factor to be considered. Attempts at quantitative estimations of impulse strength would have to take into account possible constitutional and environmental factors as explaining any individual differences which might be found to exist. A method of approach to this general problem at once suggests itself when we consider that during early infancy primary impulses come to direct discharge in behavior. In a deliberately controlled environment, kept uniform for all subjects, quantitative studies could be made of behavior attributable to such impulses. This would give us, indirectly, a measure of their original strength in each subject. Any individual differences disclosed would not only have an immediate value, but would be indispensable data for consideration in carrying out further steps in the research program which I am presenting in a necessarily very tentative and sketchy way.

2. The factors next to be taken into account are suggested by the psychoanalytic opinion that the methods employed in feeding the infant and teaching him cleanly habits play a vastly important rôle in determining the strength of impulses referable to anal and oral functions. These in turn affect the details of personality development more than any other known factors. For this reason I suggest that in a second group quantitative studies be made of differences of infantile reaction to differences in feeding intervals, time and method of substituting bottle for breast, of weaning, and of teaching sphincter control.

3. Assuming now that the strength of primary impulses can be measured during the period of life when they come to direct discharge in behavior and that this strength can be measurably affected by such factors as have just been enumerated, let us study our two sets of infants when they reach the age of six years. Let us make quantitative studies of their manifestations of cleanliness, orderliness, thriftiness, tendencies to hoard, stubbornness, optimism, pessimism, tendency to daydream, and the like. Correlate these with the earlier findings. What, if any, relationship do we find to exist between strength of a given primary impulse and the kinds of dynamisms (or ego habits) which have been developed for its redirection or other control?

Yet another approach to personality measurement, applicable to adults as well as to children, is suggested by the definition of personality as a sys-

tem of interacting dynamisms. Both the relative and the absolute strength of each of these ego habits, which on occasion either block or redirect primary impulses, play a definite rôle in giving the personality its individual stamp. If the relative frequency with which a given dynamism is apparent in behavior can be regarded as in part a function of its relative strength, or if the absolute frequency of its manifestation can be regarded as in part a function of its absolute strength, a definite research problem at once discloses itself.

Finally, we must consider that behavior is not merely measurable in terms of its frequency of occurrence. Its degree of adequacy of adaptation to the stimulus which evokes it is also capable of quantitative estimation. In clinical work we are constantly on the alert to discover what dynamisms are apparent in the verbal productions and other behavior of our patients, how frequently and under what conditions they occur, and in what degree they are adequate or inadequate as responses. For therapeutic reasons we must learn to gauge with roughly approximate accuracy the strength of these different habit-formations. For example, functioning of the dynamism known as projection is now and then apparent in the behavior of every person one analyses. As a rule it is easily dealt with because in most cases it is dynamically of minor importance in the total structure of the personality. In an occasional case, however, it is found to occur so frequently and so maladaptively that it is given a rating which ascribes to it an unbalancing dynamic importance. The patient is paranoid.

Examples could be endlessly multiplied to illustrate what is meant by saying that the clinical analyst actually does measure personality, although necessarily in a rough and ready way, every day of his working life. He is dealing with a functional system which, as Alexander (1) has pointed out, must not be lost sight of as an entity. He must deal with it in quantitative as well as in qualitative terms. He has seen the brilliant achievements of those who have developed methods for measuring another functional system, viz., intelligence. It does not seem to me to be phantastic to expect that personality will prove to be likewise measurable.

There is a point which I, as a clinician, wish to make. Psychiatrists in ever-increasing numbers have come to realize that they can function most effectively when they conceive and deal with personality in terms of direct experience, and when they regard direct experience as an organic function which occurs at conscious, preconscious, and unconscious levels. Methods devised for its careful measurement which will yield statistically manageable findings might as well be broadly as narrowly fruitful. If the persons who devise and use such methods proceed from a detailed orientation to the theories and findings of psychoanalysis, and if they are emotionally free to appraise their own findings without prejudice, they will render an equally great service to all branches of psychology, including psychiatry, whether

they totally upset or totally confirm, or partially upset and partially confirm the fundamental theories from which Freud proceeds.

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A METHOD FACILITATING THE APPLICATION OF THE χ^2 TEST TO CERTAIN PROBLEMS ARISING IN SOCIAL PSYCHOLOGY

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An important tool of statistical research in social psychology is the well-known χ^2 test. If, for example, we are examining two groups of individuals in reference to the presence or absence of a certain character, we can form a so-called association table as in Table 1.

TABLE 1

	Group 1	Group 2	
Present	a	b	$a + b$
Absent	c	d	$c + d$
	$a + c$	$b + d$	$a + b + c + d$

Here a is the number of individuals in Group 1 in which the character is observed to be present, b the number of individuals in Group 2 in which the character is present. The letters c and d refer to the number of individuals in Group 1 and Group 2, respectively, in which the character is absent. If there is no association between the presence or absence of the character under consideration and membership in Group 1 or Group 2, then the numbers a , b , c , and d would be expected to have value in proportion to the marginal totals. We could hardly expect the observed values in any given sample to correspond exactly with the expected values, but, if there is definite association, then the numbers a , b , c , and d will have values differing significantly from the expected values. It is therefore necessary to have some test to determine whether or not the observed discrepancy indicates a real association or whether it merely arises from sampling fluctuations.

If we now consider a , b , c , and d as variables, any particular combination of values, a_i , b_i , c_i , and d_i , may be represented by a point in four-dimensional space. If we took n random samples from a population in which there was no association, the n points in the four-dimensional space would be distributed in a definite way. Knowing this distribution, which originates from random sampling, we could then tell whether or not it were reasonable to assume that any particular combination of a , b , c , and d would occur by chance. If we now compute

$$\chi^2 = \sum \frac{(\text{observed value} - \text{expected value})^2}{\text{expected value}} \quad (1)$$

where the summation extends over the four cells, it has been shown that, for $\chi^2 = a$ constant, equation (1) defines the locus of an ellipsoid in four-dimensional space. The probability that any observed value of χ^2 would occur by chance is proportional to that part of the total distribution which lies outside the ellipsoid corresponding to the obtained χ^2 . Thus to any value of P (the probability that the observed χ^2 would occur under random sampling from a population in which there was no association) there corresponds a defined ellipsoid, and when we ask whether or not an observed set of values, a_i , b_i , c_i , and d_i , could reasonably arise from chance, we are asking whether or not the ellipsoid corresponding to the observed value of χ^2 lies within or without the ellipsoid which corresponds to that value of P which we take as our criterion of a significant difference. Several tables giving values of P for various values of χ^2 are available,¹ and in practice the probability that an observed association is fortuitous is found by computing χ^2 from formula (1) and reading the value of P from the χ^2 tables.²

While this test is extremely valuable in many research problems in social psychology, in some cases where a large number of values of χ^2 would be necessary the amount of computation has proved prohibitive. If, for example, we wished to compare the frequency of neurotic response of two groups of subjects on each item of the Thurstone Neurotic Inventory, it would be necessary to compute 223 values of χ^2 .

In such a case as this, where the number of subjects in each of the two groups remains constant, the problem can be somewhat simplified. If there are M subjects in one group and N subjects in the other the association table takes the form shown in Table 2.

¹For discussion of χ^2 see Fisher (1, Ch. IV and table, p. 96).

²The table is entered with the observed value of χ^2 and the number of *degrees of freedom*. For the fourfold tables under discussion here there is one degree of freedom.

TABLE 2

	Group 1	Group 2	
Yes	x	y	$x + y$
No	$M - x$	$N - y$	$M + N - x - y$
	M	N	$M + N$

For fourfold tables the expression for χ^2 , given in equation (1), can be written:

$$\chi^2 = \frac{(ad - cb)^2 (a + b + c + d)}{(a + b)(c + d)(a + c)(b + d)} \quad (2)$$

Substituting M , N , x , and y from Table 2, and after some algebraic rearrangement we get

$$x^2(MN\chi^2 + MN^2 + N^3) + y^2(MN\chi^2 + M^2N + M^3) + xy(2MN\chi^2 - 2M^2N - 2MN^2) - x(M^2N\chi^2 + MN^2\chi^2) - y(M^2N\chi^2 + MN^2\chi^2) = 0 \quad (3)$$

Since there are only two variables in equation (3) the problem is reduced from a space of four dimensions to a plane of two dimensions, and it is easily shown that, for any selected value of χ^2 , equation (3) defines the locus of an ellipse in the xy -plane.

In Table 2 the value of x is merely the number of times the character under consideration was observed in Group 1. The variable y is the number of times it occurred in Group 2. It is now necessary to select a value of P which shall be used as a criterion of significance and to determine the corresponding value of χ^2 from a table of the distribution of χ^2 .

Indicating values of x along the abscissa and values of y along the ordinate, we may now trace the ellipse defined by equation (3) for the appropriate values of M , N , and χ^2 . On this graph we can plot any number of observed values of x and y . If the point indicating observed values of x and y falls inside the ellipse, the corresponding value of χ^2 is less than that corresponding to the ellipse, and the probability that the difference^a between the two groups would occur by chance is greater than that which we have taken as our criterion of significance. On the other hand, if the plotted point falls outside the ellipse the probability is less than that which we have selected as a criterion, and accordingly the difference is significant. Thus we have a device with which, by merely plotting the value of x and y , we can determine whether the observed association is or is not significant.

We can take from the literature a typical example of a study that could profitably use the method suggested here. In this study Smith was interested

^aTo say that there is association between membership in Group 1 or Group 2 and presence of any designated character is equivalent to saying that there is a difference in the relative frequency with which the character appears in the two groups.

in comparing the frequency of neurotic responses of manic-depressive and of dementia-praecox patients to each item of the Thurstone Neurotic Inventory. The author lists the frequency of neurotic response of 26 manic-depressive patients and of 26 dementia-praecox patients⁴ to each of the 223 items in the inventory. While 26 subjects in each group are hardly adequate for a study of such a problem, the material is sufficient for purposes of illustration.

If we now take $P = .01$ as our level of significance we find that the corresponding value of χ^2 is 6.635. We then have

$$\begin{aligned}M &= 26 \\N &= 26 \\\chi^2 &= 6.635\end{aligned}$$

x = number of neurotic responses by the 26 manic-depressive patients to any item.

y = number of neurotic responses by the 26 dementia-praecox patients to the same item.

Substituting in equation (3) we get

$$58.635x^2 + 58.635y^2 - 90.730xy - 354.020x - 354.020y = 0 \quad (4)$$

The locus of the ellipse on the xy -plane can be traced by selecting arbitrarily a number of values of x and computing from equation (4) the corresponding values of y . Table 3 gives the values of x selected and the computed values of y .

Figure 1 shows the final result of the method. On the abscissa is indicated the frequency of neurotic responses by manic-depressive patients, and along the ordinate the frequency of neurotic responses by dementia-praecox patients. Each dot on the chart indicates the frequency of response by the two groups of subjects to a single item of the Thurstone inventory. The small number by the dot indicates the number of the item in the inventory.⁵

The ellipse which appears on the chart is drawn from the values of x and y given in Table 3. If the dot on the chart referring to a certain item of the Thurstone inventory falls within the ellipse, then the difference between the frequency of the manic-depressive response and the frequency of the dementia-praecox response on that item is not significant. If the point falls outside, then the difference is significant by the criterion selected.

In this way, by merely plotting the observed frequencies, we can identify at a glance those differences which are significant and those which are not.⁶ In Figure 1 we have indicated with an open dot those items which

⁴It is not, of course, necessary that the number of subjects in each group be the same.

⁵We have plotted on this chart only the first 50 items.

⁶The computation of the ellipse and the plotting of the ellipse and of the 223 points can be done by an experienced computer in about two hours.

FIGURE 1.

THE FIGURE SHOWS THE χ^2 ELLIPSE CORRESPONDING TO A PROBABILITY OF .01. EACH NUMBERED DOT REFERS TO ONE OF THE FIRST 50 ITEMS OF THE THURSTONE NEUROTIC INVENTORY. IF THE DOT LIES OUTSIDE THE ELLIPSE THE DIFFERENCE IN FREQUENCY OF RESPONSE BETWEEN THE DEMENTIA PRAECOX AND THE MANIC-DEPRESSIVE SUBJECTS IS SIGNIFICANT. OPEN DOTS INDICATE ITEMS THAT SMITH THOUGHT MOST DIFFERENTIATING.

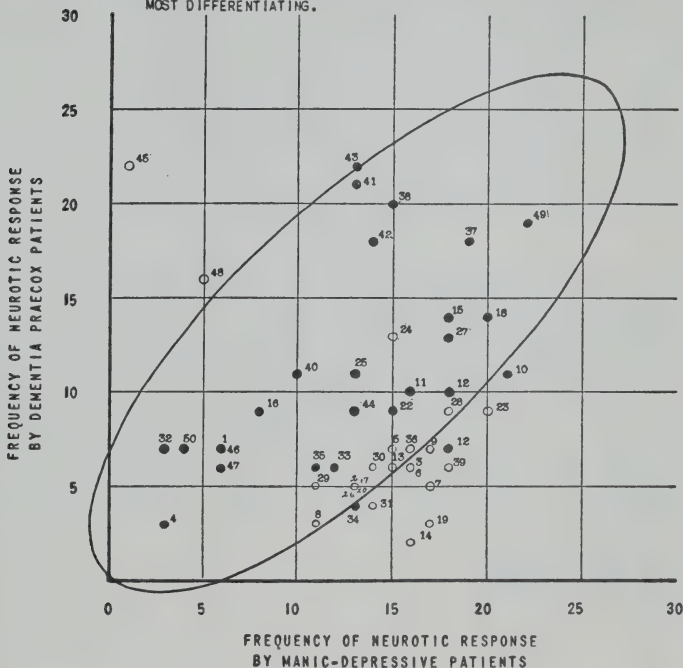


FIGURE 1

THE χ^2 ELLIPSE CORRESPONDING TO A PROBABILITY OF .01

Each dot refers to one of the first 50 items of the Thurstone Neurotic Inventory. If the dot lies outside the ellipse the difference in frequency of response between the dementia-praecox and the manic-depressive subjects is significant. Open dots indicate items that Smith thought most differentiating.

Smith thought most differentiating between the two groups. The superiority of the suggested method over mere inspection is seen by noting that the inspection method used by Smith selected a number of items within the ellipse and neglected several items outside the ellipse.

TABLE 3

Selected values of x	Values of y computed from equation (4)
	0.000
0	5.884
	— 0.317
5	13.938
	2.142
10	19.216
	5.894
15	23.201
	10.878
20	25.954
	17.961
25	26.608

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BOOKS

J. T. Salter. *Boss Rule: Portraits in City Politics*. New York: McGraw-Hill, 1935. Pp. xi+270.

As a Social Science Research Fellow, Professor Salter spent 15 months associating with a group of party politicians in Philadelphia, studying their habits and attitudes in relation to the machine politics of that city. This volume is an account of the findings. The first section is devoted to an account of the characteristics of the "division leader," that is, the political boss of one of the small municipal units. A second and larger section consists of sketches of the activities and personality traits of various individuals engaged in these activities. The final section is a sort of epilogue on Philadelphia politics following the rather complete overturn of the local political machine there in 1933.

For the social psychologist, the book is a useful presentation of certain features of leadership upon the cultural background of urban politics. The method of study was largely that of the interview, and the accounts are entirely descriptive and narrative in nature. Although there is no statistical distribution of selected traits of personality, there is revealed a good deal of valuable insight into the wide variety of individuals who take up their careers as petty politicians.

The most important feature seems to be the revelation that political organization retains, by the device of machine politics, the neighborhood, or what Charles Horton Cooley called the "primary group," form of social control. In a community definitely characterized by secondary and institutional forms of business, professions, labor, religion, and other groupings, the political machine retains its control by the face-to-face contacts that were prevalent in pioneer and pre-industrial societies. In order to understand the social rôle of the petty politician whom Salter describes, it is necessary to see him giving a direct and personal service not found in the employers' association, in the trade union, in the church, or in other widespread community organizations. This service takes the form of finding jobs for voters, getting them out of difficulties with the police, attempting and often succeeding in having their tax assessments reduced, and even in settling family and neighborhood conflicts in a friendly and usually satisfactory manner. The system of control is feudal in type, in which, for these services and others, the citizen votes as his "division" leader directs on election day. To the voter this seems perfectly legitimate and proper, and various political reformers have time and time again for-

gotten the importance of these elementary human relations. It is doubtful, in fact, if the changes discussed by the author in his closing chapters really indicate anything more than a relatively passing period of transition which in the end will find the old or similar political machine in control. Although we may recognize the place of crisis in producing social change—that is, new situations toward which new habits and attitudes must be developed—we are by no means certain from the analysis of this material that the present economic depression will fundamentally change these age-long patterns of human interaction. As in the wider field of social, economic, and political life, only the verdict of history can answer that question. But at any rate, Professor Salter has given us suggestive thumb-nail sketches of these intensely human leaders and has shown us that they represent a form of intimate and close human service that still has a place in our modern mechanized world.

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FACTORIAL ANALYSIS OF THE RELATION OF THE PRESS TO VOTING IN CHICAGO*

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Factorial methods for analyzing a correlation matrix have been involved in connection with the study of the interrelationships of tests. In the present paper we are to consider the applicability of these methods to a social problem, the relation of the press to voting behavior in a typical metropolitan community. It was possible to obtain for 47 selected areas in the city of Chicago information regarding the home coverage (circulation) of the four leading daily newspapers. For these same areas the votes received by given candidates at primary or general elections during the period 1930-32 were expressed as percentages of the total vote cast. The attitude of the newspapers toward these candidates was ascertained by estimating the number of column inches devoted in each to editorial and cartoon endorsements of a given candidate. Eight other variables were then selected, each of which was assumed to have some relationship to the problem.¹ A master table expressing each of the 21 variables in percentage form (except median rental) was then prepared for the 47 areas. Table 1 gives certain characteristics of the distributions.

For the Republican primary elections (April, 1930 and February, 1931) the percentage of the total vote received by each of the leading candidates was used, and for the general elections (all others) the percentage of the total received by the Democratic candidates. The *Chicago Tribune* (morning) and the *Chicago Daily News* (afternoon) both opposed Thompson in the Republican primary of 1931, endorsed Cermak, the Democratic candidate for mayor in the final

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¹For fuller description of the variables and the methods used in selecting them, see H. F. Gosnell and N. N. Gill, "Analysis of the 1932 Presidential vote in Chicago," *American Political Science Review*, 29 (December, 1933), 867-984, and H. F. Gosnell and M. J. Schmidt, "Relation of the Press to voting in Chicago," *Journalism Quarterly*, 1936, 13, 129-147.

TABLE 1
VARIABLES USED IN STUDY OF NEWSPAPERS AND VOTING IN CHICAGO²
(N = 47)

Variable and date	Letter symbol	Per cent for city	Percentages for 47 Areas ³			
			Mean	Lowest item	Highest item	Standard deviation
<i>News</i> , 1933	<i>a</i>	47.0	46.5	8.3	82.6	18.6
<i>Tribune</i> , 1933	<i>b</i>	56.0	37.4	14.1	66.1	14.7
<i>American</i> , 1933	<i>c</i>	55.0	37.8	19.9	50.1	7.1
<i>Herald-Examiner</i> , 1933	<i>d</i>	34.0	11.5	5.4	18.5	3.3
McCormick, April, 1930	<i>e</i>	59.5	56.6	68.1	40.7	5.9
Deneen, April, 1930	<i>f</i>	30.4	33.3	52.3	21.0	6.6
Lewis, November, 1930	<i>g</i>	72.1	70.5	92.0	46.2	9.5
Thompson, February, 1931	<i>h</i>	46.6	36.2	82.6	14.2	15.3
Albert, February, 1931	<i>i</i>	15.6	18.3	27.6	9.2	4.4
Lyle, February, 1931	<i>j</i>	35.9	43.7	67.5	6.2	14.0
Cermak, April, 1931	<i>k</i>	58.5	63.2	91.4	45.3	8.4
Roosevelt, November, 1932	<i>l</i>	59.2	55.3	90.8	26.2	14.1
Horner, November, 1932	<i>m</i>	64.0	66.4	87.0	47.5	8.8
Voting Interest, 1930	<i>o</i>	66.3	65.3	41.6	93.4	10.4
Party Voting, 1932	<i>p</i>	58.4	51.5	27.9	84.3	12.9
Bond Issue, 1930	<i>q</i>	58.0	54.5	41.0	80.0	8.0
Wet Vote, 1930	<i>r</i>	78.6	75.2	56.4	90.4	6.7
Women, 1930	<i>s</i>	41.8	44.8	31.9	54.0	5.2
Catholic Origins, 1930	<i>t</i>	32.4	26.9	7.9	81.5	20.1
Unemployment, 1931	<i>u</i>	22.7	21.9	4.3	63.5	13.1
Median Rental, 1930	<i>v</i>	\$49.6	\$57.7	\$20.8	\$124.7	20.1

²The percentages for the city were calculated in the same way as the percentages for the 47 units except those for the newspapers (variables *a*, *b*, *c*, and *d*) which were taken from the Chicago Tribune, *Book of Facts* (Chicago, 1931), p. 8.

³All figures are expressed in terms of percentages except median rental which is given in dollars. The percentages for variables *a*, *b*, *c*, and *d* were based upon the total number of families interviewed by the *Daily News* investigators. For variables *g*, *k*, *l*, and *m*, the totals used to calculate the percentages were the sums of the Democratic and Republican votes in each of the 47 areas. The percentage of the total vote at the Republican Primary was used for variables *e*, *f*, *h*, *i*, and *j*. The other variables were calculated in the following fashion. Variable *o* is the percentage of the adult citizens that registered in October, 1930. Variable *p* is the percentage that the straight party votes were of the total votes cast in November, 1932. Variable *q* is the percentage "yes" votes cast for a 1930 bond issue. Variable *r* is the percentage "yes" votes cast on the 1930 public policy referendum calling for the repeal of the Eighteenth Amendment. Variable *s* is the percentage who were women of the total number of registered voters in October, 1930. Variable *t* is the percentage of the total population born, or whose parents were born in the following countries which are regarded as Catholic countries: Irish Free State, Poland, Czechoslovakia, Austria, Hungary, Yugoslavia, Lithuania, Italy, and French speak-

election, opposed Roosevelt for the presidency, and endorsed Horner, the Democratic candidate for governor. Since Thompson ran against Cermak in the mayoralty election and since Len Small was the candidate backed by Thompson for governor, these two papers were consistently opposed to the Thompson faction in state and local politics. In the 1930 Republican primary the *News* endorsed Deneen and the *Tribune* endorsed McCormick, while in the 1931 primary the *News* endorsed Albert and the *Tribune* backed Lyle. The Hearst papers, the *Evening American* and the *Herald and Examiner* (morning) both endorsed McCormick, Lewis, Thompson, and Roosevelt. The *Herald and Examiner* opposed Cermak and endorsed Horner but the *American* took no stand on these candidates.

Product-moment coefficients of correlation were then calculated for all possible combinations of the 21 variables. Do these intercorrelations show patterns of behavior which can be interpreted in the light of the newspaper recommendations? The problem is quite different from the one presented by the intercorrelations between tests given to the same individuals. In our problem we are dealing with 21 different aspects of the behavior of the people who happened to be living in 47 different areas of the city. In each of these areas some persons moved in and others moved away during the period studied. However, the general character of the neighborhoods did not change greatly during the four-year span covered. Since the primary elections included only a portion of the total electorate, can they be compared with general elections which included all the voters? Are

ing parts of Canada. Variable u is the percentage unemployed in 1931 of the gainful workers ten years of age and over.

Election returns were obtained from the *Chicago Daily News Almanac and Year Book*, the *Public Service Leader* and the records of the Board of Election Commissioners of Chicago. Newspaper circulation figures were secured from the Chicago Daily News, Inc., *Survey of Daily Newspaper Home Coverage in Metropolitan Chicago*, (Chicago, 1934). Census data were taken from E. E. Burgess and C. Newcomb (Eds.), *Census Data of the City of Chicago, 1930* (Chicago, 1933).

The sections in which the population was 20 per cent or more Negro were excluded because these districts were atypical and destroyed the tendency which most of the distributions showed toward normality. Since the methods employed in this study assume normal distributions, it was regarded as desirable to consider the white voters only. One of the authors has written at length regarding the voting behavior of Negroes in Chicago. See H. F. Gosnell, *Negro Politicians: The Rise of Negro Politics in Chicago* (Chicago, 1935), pp. 15-92.

we justified in placing all of these variables in the same correlation matrix? The time element is a bothersome one. From the logical standpoint we can discuss the relation of the votes in 1932 to the preceding elections, but what is the meaning of the relationship of the 1930 vote to the elections which came after it? In interpreting the zero order coefficients given in the correlation matrix (Table 2) it is necessary to keep these qualifications in mind. In another place we have handled this problem by means of equations of net regression for selected sets of variables.⁴

Factorial methods in general assume that there are primary tendencies which are to be estimated in terms of the variables given. If the variables are the test scores of individuals, primary abilities are postulated. In our problem, it is assumed that there are certain primary political tendencies. It is possible by inspection to select certain variables from Table 2 which closely resemble each other. Thus, the Deneen vote, the Lyle vote, the *News* home coverage, the *Tribune* home coverage, the ratio of women voters, and the median rental all appear to be different aspects of a single factor or primary tendency. Inversely related to this same factor are the Roosevelt vote, the Lewis vote, party voting, the ratio of Catholics of foreign origins and the percentage unemployed. It is also apparent that there is some resemblance between the McCormick vote, the wet vote and the home coverage of the *Herald and Examiner*. Most of the coefficients involving the Hearst morning paper are lower than those for the McCormick and wet votes but they have the same signs with two exceptions (Horner vote and *American*). This process might be continued but it would soon be apparent that the relations are too complicated to be described in terms of the zero order coefficients.

It was decided to use the method of multiple factor analysis devised by Professor L. L. Thurstone.⁵ A discussion of the theory and mathematics of this method is beyond the limits of the present paper. The object of factor analysis is to ascertain how many general and independent factors it is necessary to postulate in order to account for a

⁴Gosnell and Schmidt, *op. cit.*

⁵The word "factor" is used in the following technical sense. A factor is a reference variable in terms of which given variables can be expressed as linear functions. Consult L. L. Thurstone, *Vectors of Mind: Multiple Factor Analysis to the Isolation of Primary Traits* (Chicago, 1935).

TABLE 2
INTERCORRELATIONS OF TWENTY-ONE VARIABLES RELATED TO NEWSPAPER HOME COVERAGE AND VOTING BEHAVIOR IN CHICAGO
1930-1932 ($N = 47$)

Letter Vari- symbol able	Percentages for candidates											Political and Social Variables													
	Newspapers					Republi- can pri- mary 1930					Elec- tion primary 1931					Elec- tion 1932					Political and Social Variables				
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v			
<i>a News</i>	.87	.22	-.34	-.41	.49	-.66	-.82	.18	.82	.06	-.79	-.05	-.31	-.84	-.57	-.67	.91	-.85	-.69	.82					
<i>b Tribune</i>	.87	.10	-.12	-.33	.58	-.65	-.75	.14	.76	.20	-.74	.10	-.35	-.84	-.37	-.54	.86	-.75	-.63	.86					
<i>c American</i>	.22	.10	.19	-.02	-.15	.25	-.18	.10	.21	-.34	-.27	-.17	-.27	-.22	-.27	.10	.30	-.40	.30	.26					
<i>d Herald & Ex.</i>	-.34	-.12	.19	.27	-.20	.26	.39	-.31	-.31	-.30	.23	.16	.05	.24	.41	.41	.19	.06	.06	.20					
<i>e McCormick</i>	-.41	-.33	-.02	.27	-.84	.37	.58	-.03	-.64	-.07	.45	.14	.17	.41	.46	.69	.40	.40	.35	.35					
<i>f Deneen</i>	.49	.58	-.15	-.20	-.84	-.56	-.54	.00	.61	.11	-.55	.01	-.16	-.54	-.17	-.60	.52	.43	-.38	.52					
<i>g Lewis</i>	-.66	-.65	.25	.26	.37	-.56	.61	.01	-.67	.10	.91	.35	.26	.67	.29	.74	.68	.47	-.58	.47					
<i>h Thompson</i>	-.82	-.75	-.18	.39	.58	-.54	.61	-.40	-.95	-.33	.77	.01	.55	.84	.74	.82	.81	.78	.68	.77					
<i>i Albert</i>	.18	.14	.10	-.31	-.03	.00	.01	-.40	.10	.56	.05	.41	.30	-.22	-.22	-.17	.11	.07	-.15	.17					
<i>j Lyle</i>	.82	.76	.21	-.31	-.64	.61	-.67	-.95	.10	.18	-.81	-.13	-.50	-.82	-.71	.84	.83	-.81	-.67	.77					
<i>k Cermak</i>	.06	.20	-.34	-.30	-.07	.11	.10	-.33	.56	.18	.15	.73	-.12	-.04	-.16	-.13	.05	.19	.00	.10					
<i>l Roosevelt</i>	-.79	-.74	-.27	.23	.45	-.55	.91	.77	-.05	-.81	.15	.44	.38	.83	.50	.78	.78	.84	.59	.72					
<i>m Horner</i>	-.05	.10	-.17	-.16	.14	.01	.35	.01	.41	-.13	.73	.44	-.06	.04	.23	.30	-.04	.30	.04	.11					
<i>n Voting Int.</i>	-.31	-.35	-.27	.05	.17	-.16	.26	.55	-.30	-.50	-.12	.38	-.06	.62	.33	.36	-.38	.48	.37	.51					
<i>o Party Voting</i>	-.84	-.84	-.22	.24	.41	-.54	.67	.84	-.22	-.82	-.04	.83	.04	.62	.52	.65	-.84	.84	.72	.89					
<i>p Bond Issue</i>	-.57	-.37	-.27	.41	.46	-.17	.29	.74	-.22	.71	-.16	.50	.23	.33	.52	.71	-.48	.51	.49	.35					
<i>q Wet Vote</i>	-.67	-.54	.10	.41	.69	-.60	.74	.82	-.17	-.84	-.13	.78	.30	.36	.65	.71	-.62	.63	.51	-.48					
<i>r Women</i>	.91	.86	.30	-.19	-.40	.52	-.68	.81	.11	.83	.06	-.78	-.04	-.38	-.84	-.48	-.62	-.87	-.75	.85					
<i>s Cath. Origins</i>	-.85	-.75	-.40	.06	.40	-.43	.68	.78	-.07	-.81	.19	.84	.30	.48	.84	.51	.63	-.87	.72	.79					
<i>t Unemployment</i>	-.69	-.63	-.30	.06	.35	-.38	.47	.68	-.15	-.67	.00	.59	.04	.37	.72	.49	.51	-.75	.72	-.72					
<i>u Median Rental</i>	.82	.86	.26	-.20	-.35	.52	-.58	-.77	.17	.77	.10	-.72	.11	-.51	-.89	-.35	-.48	.85	-.79	-.72					

whole table of intercorrelations.⁶ Its aim is to present a complicated set of relationships in terms of a relatively small number of factors. In connection with the problem at hand it was discovered that the 210 intercorrelation could be satisfactorily explained in terms of four general factors. The addition of a fifth factor did not greatly improve the analysis so it was regarded as unnecessary.⁷ The four factor solution which is presented in Table 3 is the unique solution in the sense that the number of variables which had loadings approaching zero was maximized for each factor.⁸ In other words, the factor loadings were chosen so as to define what each factor was as clearly as possible.⁹

The next step in the analysis is to name the factors if possible. Mathematically, the solution may be clear cut but its meaning may be far from clear. There is no assurance that the factor loadings will arrange themselves so that they can be readily interpreted. One procedure is to inspect the factor loadings that have high values, whether positive or negative. The first factor in the problem under consideration has high positive loadings for the following variables, the *Tribune* home coverage, the median rental, the ratio of women registered, the *Daily News* home coverage, and the Deneen primary vote, while it has high negative loadings for straight party voting, the Lewis vote, the Roosevelt vote, the percentage of Catholic origins, and the percentage unemployed. Should this factor be called economic status, traditional Republican party vote in national elections, or the relation of the independent Republican press to the party struggle along national lines? We are very sure what this factor is not. It

⁶The word "independent" is used in a mathematical sense but does not mean that the factors are uncorrelated.

⁷The residuals were so small that they could be neglected. The centroid method was employed. The centroid coordinates of the factorial matrix can be readily transposed to the correlation matrix.

⁸This is called the analytical method for determining the axes. See Thurstone, *op. cit.*, Chap. VII.

⁹The word "factor loading" has the following meaning. In deriving his equations, Professor Thurstone reduced his variables to standard scores. The total variance of such a variable is unity. Variance is the square of the standard deviation.

Let A_{jk} = factor loading of variable j in factor k .

Then A_{jk}^2 = that part of the total variance of variable j which is attributable to factor k .

In other words, the term "factor loading" refers to the degree to which each variable is loaded or weighted with a general factor (or reference variable).

has nothing to do with local city politics, the wet issue, and very little to do with primary elections. The Hearst papers also have loadings in this factor which approach zero. Another way of describing Factor I is to consider the inverse of the negative loadings. The variables concerned then become percentages of total ballots that were split, Mrs. McCormick's vote in November, 1930, Hoover's vote, ratio of non-Catholics, and percentage employed. Put in these terms, one side of the political struggle represented by this factor might be called the Republicanism in national politics of the well-to-do readers of the *Tribune* and the *News* who show no preference one way or the other on the prohibition question or local issues. Did Chicagoans vote Republican because they read these papers or because they were in the group which paid high rentals? This question cannot be answered by the techniques under consideration, but it can be stated that these newspapers are an integral part of the cluster of variables which have high loadings in Factor I.

Factor II clearly relates to local politics and to the Republican primaries. Considering the signs of the loadings as they are, the aspect of this factor that stands out is the Thompson sentiment which was manifest in Republican primaries as well as in elections. The factor also has high loadings in variables which refer to issues, i. e., the wet vote and the bond issue vote. High positive loadings are found in the McCormick primary vote, the *Herald and Examiner* home coverage, the Wet vote, the Thompson primary vote, the percentage "yes" on the Bond issue, and the *American* home coverage, while high negative loadings are obtained in the Cermak vote, the Albert vote, the Horner vote, and the Deneen vote. Considering the variables in the order of the magnitude of their Factor II loadings, we might express them as follows: the Thompson vote in the final mayoralty election (loading of the Cermak vote = $-.70$), the McCormick primary vote, the home coverage of the *Herald and Examiner*, the wet vote, the Thompson primary vote, the anti-Albert primary vote, the Small vote, the anti-Deneen vote, the Bond issue vote, and the home coverage of the *American*. This factor clearly has nothing to do with national politics, with economic status and with the home coverage of the *Tribune* and the *News*. It might be called local political alignments as related to the Hearst papers. Another way of distinguishing this cluster of variables from the others is to say that it represents the wet, free-spending, Republican elements in their

clash against the dries, the advocates of economy, and the Democrats in local politics.

In Factor III we have the overlapping of national and local politics. None of the four newspapers studied has any importance in explaining this factor. Zero loadings are also obtained in such variables as the straight party vote, the ratio of unemployment, the ratio of women, and the Thompson primary vote. The high loadings in this factor in the order of their magnitude are: the Horner vote, the Cermak vote, the Albert vote,¹⁰ the Roosevelt vote, the Lewis vote, the wet vote, the McCormick vote, and the per cent of Catholic origins. Since most of the elections concerned involved only two candidates this factor can be stated as the inverse of the Small, Thompson, Hoover, McCormick, and dry Protestant Republican elements. Mrs. McCormick's primary vote and her general election opponent's vote both have positive loadings since her vote in the November election was inversely related to her primary vote.¹¹ We might call this factor the cleavage between the wet Democrats and the die-hard dry Republicans who never split tickets in local or national elections.

There now remains one more factor to be explained, Factor IV which has positive loadings in the *American* home coverage, the Lewis vote, the *Herald and Examiner* and the McCormick vote. However, most of the loadings for this factor of any magnitude are negative. In this group come the Horner vote, the Deneen vote, the Cermak vote, the Bond issue vote, the *Tribune* home coverage, median rental, interest in voting and the *News* home coverage. We might call this factor state and local alignments as related to the policies of all of the papers. It does not involve the Roosevelt vote, the unemployed, the Republican mayoralty primary or the wet issue. The struggle between the independent Republican papers and the Hearst

¹⁰In describing this factor much more importance was given to the Roosevelt vote than to the Albert vote, although both had the same factor loadings. The nature of the variables justifies this procedure. The Albert vote was a primary vote and covered only a small fraction of the total electorate. The highest vote that Albert received was 27 per cent of the Republican primary vote. The Roosevelt vote standard deviation was also much larger. Albert ran above his average in some areas which were strongly Democratic.

¹¹This is accounted for by the fact that Mrs. McCormick's primary vote was positively correlated with her opponent's election vote (Mrs. McCormick primary vote and Lewis vote, $r_{eg} = .37$).

TABLE 3
 FACTORIAL MATRIX OF NEWSPAPER HOME COVERAGE AND VOTING
 BEHAVIOR IN CHICAGO

Letter symbol	Variable	Factor I Traditional Republican Vote in Na- tional Elections	Factor II Thompsonism in Local and Republican Primary Elections	Factor III Wet Democrats in National and Local Elections	Factor IV Republican Vote in State and Local Elections
<i>a</i>	<i>News</i> , home coverage, 1933	.58	-.07	-.04	-.18
<i>b</i>	<i>Tribune</i> , home coverage, 1933	.74	-.02	.14	-.36
<i>c</i>	<i>American</i> , home coverage, 1933	-.01	.33	.00	.50
<i>d</i>	<i>Herald and Examiner</i> , home coverage, 1933	.03	.50	-.03	.19
<i>e</i>	McCormick, April, 1930	.03	.54	.33	.14
<i>f</i>	Deneen, April, 1930	.38	-.36	-.16	-.47
<i>g</i>	Lewis, November, 1930	-.50	.01	.44	.29
<i>h</i>	Thompson, February, 1931	-.22	.43	-.01	-.04
<i>i</i>	Albert, February, 1931	-.02	-.42	.45	-.03
<i>j</i>	Lyle, February, 1931	.28	-.29	-.20	.01
<i>k</i>	Cermak, April, 1931	.01	-.70	.67	-.40
<i>l</i>	Roosevelt, November, 1932	-.47	-.09	.45	.01
<i>m</i>	Horner, November, 1932	.22	-.38	.83	-.49
<i>n</i>	Voting Interest, November, 1930	-.12	.07	-.10	-.20
<i>p</i>	Party Voting, November, 1932	-.58	.01	.00	.09
<i>q</i>	Bond Issue, November, 1930	.18	.36	.21	-.36
<i>r</i>	Wet Vote, November, 1930	-.02	.45	.44	-.01
<i>s</i>	Women, November, 1930	.63	.02	.01	-.15
<i>t</i>	Catholic Origins, 1930	-.47	-.22	.26	-.18
<i>u</i>	Unemployment, 1931	-.40	-.02	.00	-.05
<i>v</i>	Median Rental, 1930*	.72	.04	.17	-.23

*Expressed in dollars.

papers over the personality of Mayor Thompson in final elections is the central core of this factor.

We are now in a position to consider the relationship of the newspapers to the four factors. The *News* and the *Tribune* have their highest loadings in Factor I. This means that these papers have readers who are, above everything else, Republicans in national politics. The next highest loadings are found in Factor IV which indicates that the readers were strongly opposed to voting for the Republican candidates for state and local offices during the period under discussion. The zero order coefficients do not bring out this relationship clearly since the correlations involving the Horner vote and the Cermak vote are very low.¹² When the relationship of the home coverages of these newspapers to all the other variables is considered, then the opposition of these papers to what Thompson and Small stood for becomes clear since Factor III represents the Republicans who do not scratch their tickets as well as the wet Democrats, we would not expect the *Tribune* and the *News* to have high loadings in it. On the other hand, the question may be raised why these papers have almost zero loadings in Factor II which also represents the Thompson Republican faction. The coefficients involving these papers and the Thompson primary vote are high and negative. How has the multiple factor analysis expressed this relationship? The answer is that the opposition of these papers to Thompson is set forth in the loading of $-.22$ which the Thompson primary vote has in Factor I. This loading is another way of saying that Thompson's primary vote was positively correlated with the Democratic vote in the national elections.

The multiple factor analysis also brings out very clearly the relation between the morning and afternoon Hearst papers as far as their positions in the correlation matrix are concerned. Essentially the two papers are in agreement as their loadings are both positive in Factors II and IV and negligible in the other factors. The original coefficients indicate clearly that the Hearst morning paper should have a higher loading in Factor II (r between *Herald and Examiner* and Thompson primary vote = $.39$ while that between

¹²The equation of net regression for the Horner vote as a function of the *News*, the Cermak vote, and the Roosevelt vote is:

$\bar{X}_{m.akl} = -9.789 + .2418 X_a + .6126 X_k + .4743 X_i$, $\bar{S}_{m.akl} = 4.758$, $\bar{R}_{m.akl} = .8467$,
 $\sigma b_{ma.kl} = .063$, $r_{ma.kl} = .740$

American and Thompson primary vote = .18). It is interesting to note that the relationship between the *American* and the Thompson primary vote was not apparent in the coefficient but it comes out in the factor analysis. In taking into account all of the other relationships, the factor analysis has reduced the distortion which was produced by the units in which there were many non-newspaper readers. The fact that the *American* had a higher loading than the *Herald and Examiner* in Factor IV can be explained on similar grounds.

Since the newspapers have loadings that are among the highest found in three factors, it may be concluded that they are significant in the situation described. In national as well as in local politics the Hearst papers opposed the other two dailies with large circulations in Chicago. The fact that these two sets of papers were working on opposing sides at each election tended to accentuate the relation of each set to the fate of the candidates concerned.

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PRESTIGE, SUGGESTION, AND ATTITUDES*^{1 2}

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The literature of "attitude measurement" has been augmented in no small degree by studies concerned with changes in attitude. The usual procedure in change of attitude under experimental technique is, first, to administer some test of attitudes; second, to expose the subjects to propaganda or other forms of suggestion more or less overtly; and last, to subject them to a second form of the original attitudes test, the change in attitude being measured as the difference in scores upon the first and final tests, and considered as due to, or caused by, the propaganda. The experimental propaganda may be motion pictures, or presentation of factual material, or the vigorous attack upon, or defense of, biased points of view. The propaganda, however, is presented always from outside the subject. It is more an onslaught upon him than a consequence from his own prejudices.

The study reported herein differs from usual attitude experiments in that the propaganda or suggestion utilized to shift attitudes already exists in the subject. Persons, whether they wish it or not, already have a large number of more or less specific attitudes about a large number of issues. In this experiment, all that is utilized are these existing attitudes. Most persons alive in the United States today have attitudes about persons as different as Alfred E. Smith, Franklin D. Roosevelt, Clarence Darrow, Hugh S. Johnson, Huey Long, and William Randolph Hearst. These attitudes are more or less settled at any given time. These settled attitudes are the resultant of many intellectual, emotional, and factual propagandas

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influencing, or capable of influencing, a person. Such settled attitudes have value in giving direction to reactions in isolated new situations.

An educated person may, and generally does, have a definite or fairly fixed attitude about Lenin or Lincoln, but his attitude to such statements as "Labor is prior to, and independent of capital," and "Capital is only the fruit of labor, and could never have existed if labor had not first existed" is rarely a settled attitude. Reactions to specific points generally are tentative if the specific statements have not been reacted to earlier, or given consideration in thinking. In a large number of attitudes, the point of view with regard to individuals who personify leadership is settled, whereas the bias with regard to specific utterances of those leaders is tentative. It is the primary objective of this study to measure the interaction of settled, with tentative, attitudes.

The general procedure used in this experiment is first, to have subjects indicate their respect or regard for the political opinions of well-known, or fairly well-known persons, organizations, or publications; second, after a lapse of time, to have the same subjects indicate their degree of agreement with ideas embodied in quotations from these well-known or fairly well-known persons, organizations, or publications, and to record their guess as to which of two sources is actually quoted, one of the two choices being the true source; third, after a further lapse of time to secure from the same subjects their degree of agreement for the same quotations, being informed of the true source of the quotation.

The quotations are thus rated at two different times, once, when the source had to be selected from between two, and another, when the true source only was indicated. The rating of the quotation may then be a function of the regard for the source selected at the first presentation and a function of the source indicated in the second presentation. If the author selected was wrong or false, it becomes possible to measure the change in agreement for the quotation as dependent upon the difference in regard for the false and true sources.

The sources and quotations were selected from writings upon economic solutions of current world problems. This current controversial subject was chosen since it was believed that most people

have more or less settled attitudes to the persons, organizations, and publications advocating solutions for current economic difficulties, while their attitudes to specific utterances of these same persons, organizations, or publications, in general, are tentative. In all, one hundred quotations were selected from seventy sources.

The subjects who participated in this experiment were ninety-nine unemployed educated persons who were made available (and paid) for a research project in adult learning. Their average intelligence score as derived from five forms of the *I. E. R.* Intelligence Scale *CAVD* (which consumed about twenty-five hours of testing and yielded a reliability coefficient of .99) was 403 with a range from 367 to 440 (these scores represent a range, approximately, from the mean of the total adult population to the ninety-ninth percentile of college graduates, and have a mean closely equal to that of college freshmen). In age the subjects ranged from twenty to sixty-nine years, the mean being thirty-eight years. The fact that the subjects were unemployed persons and so subject to the travail of economic maladjustment made the choice of economic solutions of world problems particularly pertinent.

ECONOMIC ATTITUDE SCALE—(Set I)

Below is a list of celebrated individuals, some of whom have been prominent in the political or business life of our own country, and some of whom have played an important part in world affairs. In a general way, the political opinions of most of these individuals are probably fairly well known to you.

You are to indicate your respect for the political opinions of each of these individuals by placing before the name of each individual one of the numbers in the key which follows:

1. *Those individuals whose opinions you respect most.*
 2. *Those individuals whose opinions you respect but not as much as those you have marked "1."*
 5. *Those individuals whose opinions you neither respect nor disrespect.*
 8. *Those individuals for whose opinions you have little respect but not so little as "9."*
 9. *Those individuals for whose opinions you have least respect.*
- Karl Marx—German Socialist and Revolutionary Leader
V. I. Lenin—Russian Communist Leader
Abraham Lincoln—Civil War President of the U. S.
Huey Long—Senator from Louisiana
Herbert Hoover—Ex-President of the U. S.

- Norman Thomas—Leader of the Socialist Party in U. S.
- Victor Hugo—19th Century French Novelist
- Henry T. Rainey—Speaker of the House of Representatives
- Robert Owen—Pioneer English Socialist; 19th Century
- James Madison—Fourth President of the U. S.
- John Adams—Second President of the U. S.
- Wm. Z. Foster—Leader of the Communist Party in America
- Franklin D. Roosevelt—President of the U. S.
- Thomas Jefferson—Third President of the U. S.
- Calvin Coolidge—Late President of the U. S.

The persons named in *Economic Attitude Scale—Set I* offer a sample of the seventy sources rated. Three days after rating their regard for the courses, the subjects rated their agreement with quotations from the rated sources, and made choice of one or two names as author (one of which was correct). The following quotations are a sample from the total of one hundred quotations.

ECONOMIC ATTITUDE TEST—(Set II)

On the following pages is a group of quotations from the writings and speeches of famous individuals. You are to indicate your agreement or your disagreement with the opinion expressed in each of these statements. You will indicate your agreement or disagreement by placing before each statement one of the numbers in the key below:

1. *Those statements with which you most completely agree.*
2. *Those statements with which you agree but not as completely as those you have marked "1."*
5. *Those statements with which you neither agree nor disagree.*
8. *Those statements with which you disagree but not as strongly as "9."*
9. *Those statements with which you most strongly disagree.*

At the end of each statement you will find two names, one of which is the author of the statement quoted. Make a check before the name of the person who you think made the statement.

In other words, you are to do *two* things with each statement:

- a. *Indicate by a number your agreement or disagreement with the opinion expressed.*
- b. *Check the name of the individual who you think made the statement.*

....."Those who hold and those who are without property have ever formed two distinct classes."

.....KARL MARX—German Socialist and Revolutionary Leader.

.....JOHN ADAMS—Second President of the U. S.

* * * * *

....."It is of no consequence by what name you call the people, whether by that of freemen or slaves; in some countries the laboring poor are called freemen, in others they are called slaves; but the difference as to the state is imaginary only. What matters it whether a landlord employing ten laborers on his farm gives them annually as much money as will buy them the necessities of life or gives them those necessities at short hand?"

.....JAMES MADISON—Fourth President of the U. S.

.....ROBERT OWEN—Pioneer English Socialist; 19th Century.

* * * * *

....."Labor is prior to, and independent of capital. Capital is only the fruit of labor, and could never have existed if labor had not first existed."

.....ABRAHAM LINCOLN—Civil War President of the U. S.

.....V. I. LENIN—Leader of the Russian Communist Revolution.

* * * * *

....."And inasmuch as most good things are produced by labor, it follows that all such things belong to those whose labor has produced them. But it so happened, in all ages of the world, that some have labored, and others have, without labor, enjoyed a large proportion of the fruits. This is wrong and should not continue. To secure to each laborer the whole product of his labor, or as nearly so as possible, is a worthy object of any good government."

.....V. I. LENIN—Leader of the Russian Communist Revolution.

.....ABRAHAM LINCOLN—Civil War President of the U. S.

* * * * *

....."The paradise of the rich is made out of the hell of the poor."

.....HUEY LONG—U. S. Senator from Louisiana.

.....VICTOR HUGO—19th Century French Novelist.

* * * * *

....."That our system has avoided the establishment and domination of class has a significant proof in the present administration in Washington. Of the twelve men comprising the President, Vice-President and Cabinet, nine have earned their own way in life without economic inheritance and eight of them started with manual labor."

.....HERBERT HOOVER—Ex-President of the U. S.

.....CALVIN COOLIDGE—Late President of the U. S.

* * * * *

....."I particularly investigated the question of forced labor in Soviet Russia and there isn't any there. Labor is freer in Russia than in any country in the world. There is only one disadvantage under which Russia now operates,—that the workers have more money than ever before,

and they are spending it liberally in travelling, literally by tens of thousands of people, from one job to another. They are sure of their employment wherever they stop, and they can go back to their original employment any time."

.....NORMAN THOMAS—Leader of the Socialist Party in the U. S.

.....HENRY T. RAINEY—Speaker of the House of Representatives.

* * * * *

....."Russian-Soviet imperialism, which has robbed whole series of non-Russian peoples of their rights and principles, is striving to extend its rule still further, and to cause trouble between other countries. This is the greatest danger of war."

.....HENRY T. RAINEY—Speaker of the House of Representatives.

.....NORMAN THOMAS—Leader of the Socialist Party in the U. S.

* * * * *

....."The moral and economic results of debilitated, illiterate and untrained manhood and womanhood that must spring from the cesspools where child labor is encouraged and is legitimate infect the entire nation."

.....HERBERT HOOVER—Ex-President of the U. S.

.....WM. Z. FOSTER—Leader of the Communist Party in the U. S.

* * * * *

....."I hold it that a little rebellion, now and then, is a good thing, and as necessary in the political world as storms are in the physical."

.....V. I. LENIN—Leader of the Russian Communist Revolution.

.....THOMAS JEFFERSON—Third President of the U. S.

In *Economic Attitude Test—Set II*, the quotations were not only rated, but a source was also selected as the authority for the quotation. Since in Set I the sources were rated for regard, it is possible to consider each rating of each quotation as a function of the regard for the source presumed to be the authority. If this source was chosen incorrectly, the rating was considered a function of the false authority and the regard for it. If this source was chosen correctly, the rating was considered a function of the true authority and the regard for it.

After periods of time, varying from two weeks to a month (and after all the sources of Set I had been rated for regard, and all the quotations in Set II had been rated, and an authority selected for

each quotation), the subjects were required to rate the quotations again. The data of Set III differed in one essential from that of Set II: only the true source was indicated. The directions were as follows.

ECONOMIC ATTITUDE SCALE—(Set III)

On the following pages is a group of quotations from the writings and speeches of famous individuals. You are to indicate your agreement or your disagreement with the opinion expressed in each of these statements. You will indicate your agreement or disagreement by placing before each statement one of the numbers in the key below:

1. *Those statements with which you most completely agree.*
2. *Those statements with which you agree but not as completely as those you have marked "1."*
5. *Those statements with which you neither agree nor disagree.*
8. *Those statements with which you disagree but not as strongly as "9."*
9. *Those statements with which you most strongly disagree.*

At the end of each statement, you will find the name of the real author, or source, of the statement.

Each quotation of Set II (of which a sample has been shown) was rated for agreement on a five-point scale. In addition, the subject selected from between two sources, either the true or the false authority. In Set I, moreover, the subject had some time previously indicated his regard for each source used in Set II. Hence, each rating of the quotation in Set II might be considered as a function of the author selected and of the subject's regard for that source. For convenience the selection of the true source will be designated *T*, and further to incorporate the regard for the source, the designation of *T*1, *T*2, *T*5, *T*8, and *T*9 will indicate that the true source was chosen and regarded 1, 2, 5, 8, or 9 respectively. The designation *F* will show that the wrong source was selected in Set II, and *F*1, *F*2, *F*5, *F*8, and *F*9 will indicate that the false source was chosen and regarded 1, 2, 5, 8, and 9 respectively. In Set III, however, only the true sources were shown. The regard for them will be always *T* with the proper number indicative of regard for it.

The ratings of the quotations in Set II and Set III may thus be analyzed as a function of the regard of the source selected in Set II and the source indicated in Set III. Differences in ratings on the two administrations of the quotations may be viewed as a function

of the regard of presumed source on the first occasion and of the known source on the second. In Table 1 a sample of the record sheet of an individual, illustrating the method of tabulating the ratings of sources and of quotations, is shown.

TABLE 1

PART OF THE RECORD OF *B₀* SHOWING THE METHOD OF ANALYZING THE RATING TO EACH QUOTATION AS ADMINISTERED IN SET II, AND IN SET III, AS A FUNCTION OF THE REGARD FOR THE SOURCE SELECTED IN SET II, AND OF THE REGARD FOR THE SOURCE DESIGNATED IN SET III

Quotation number	1		2		3		4		5	
True or false source	<i>T</i>	<i>F</i>	<i>T</i>	<i>F</i>	<i>T</i>	<i>F</i>	<i>T</i>	<i>F</i>	<i>T</i>	<i>F</i>
Number of source	11	1	10	9	3	2	3	2	7	4
Regard for source	2	9	2	2	1	9	1	9	1	5
Rating of the quotation in Set II		2		2		2		1		2
Rating of the quotation in Set III	1		5		1		1		2	

Table 1 is read as follows: quotation 1 given in Set II had appended to it sources 11 and 1. Source 11 is the actual or true author of the quotation and source 1 is not its author. In the rating of sources (Set I), source 11 was given a value of 2, and source 1 a value of 9. When the quotation was presented to subject *B₀* (Set II) he rated the quotation 2 when he thought the false author had written it. When the true author was indicated (Set III) he rated the quotation 1. Each quotation was analyzed for each subject in a similar manner.

For each of the ninety-nine subjects, a complete analysis like that of subject *B₀* in Table 1 was made for each of the 100 quotations. From records like that of Table 1 it becomes possible to set up contingency tables of the rating of the quotations in Set II as against those in Set III for each combination of author selected in Set II, and the author indicated in Set III, with the corresponding regard for each. There are 30 combinations of selected and indicated authors and the regard for them. If the authority chosen in Set II were *F* and regarded 1 (designated *F1*), and when in Set III the authority was known, the possible combinations would be *F1T1*, *F1T2*, *F1T5*, *F1T8*, and *F1T9*. The rating of the quotations on Set II and Set III might be subsumed as contingency plots under each of these five combinations, or of the 20 other false to true com-

binations, that is,

F2T1, F2T2, F2T5, F2T8, and F2T9
F5T1, F5T2, F5T5, F5T8, and F5T9
F8T1, F8T2, F8T5, F8T8, and F8T9
F9T1, F9T2, F9T5, F9T8, and F9T9

as well as instances in which the true source was selected in Set II, which gives combinations of *T1T1, T2T2, T5T5, T8T8, and T9T9*.

Table 2 shows the ratings of the quotations in Set II as opposed to ratings given in Set III under the 30 possible combinations of regard for source.

The facts reported in Table 2 can be summarized by computing the medians and the means of the ratings as given in Set II, and comparing them with the corresponding means and medians as given in Set III. There will be thirty such measures corresponding to the thirty scattergrams of Table 2. For purposes of computation, there has been assigned to a rating of 1 a step interval value from +2.5 to +1.5; to 2, a step interval value from +1.5 to +0.5; to 5, a step interval value from +0.5 to -0.5; to 8, a step interval value from -0.5 to -1.5; and to 9, a step interval value from -1.5 to -2.5.

In Table 3 are reported the means as well as the medians for the ratings of quotations as a function of the regard for the authority selected in Set II and for the authority known to be true in Set III. Table 3 is read as follows: If the author selected was incorrect but held in regard indicated by use of the number 1 (opinion respected most highly and designated *F1*), the mean rating for quotations so allocated was 1.39; when, later, the true author was known and that author was also regarded "1," the same quotations received a mean rating of 1.19; if the author falsely selected were held in esteem indicated by 1, and were, when known, held in esteem indicated by 2, the corresponding means were 1.16 and 1.03, etc.

The difference between the ratings in Set II and Set III can now be considered in terms of the difference in regard for the sources of the quotations at the two successive administrations. For example, the mean rating of quotations when the incorrectly selected author was esteemed at "9" was -0.05; when the true author known and esteemed at "1," those same quotations were given a mean rating of 0.91. The difference of +0.96 can be considered as a function of

Rating of the quotation when the true authority was indicated (Set III) and regarded		“1”										“2”										“5”										“8”										“9”																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Rating of the quotation when the authority was correctly (T) or incorrectly (F) chosen and regarded		F1										F2										F5										F8										F9										T																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
9	1	2	5	8	9	2	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9	1	2	5	8	9	9

TABLE 3
THE MEAN AND MEDIAN OF RATINGS FOR THE QUOTATIONS WHEN THE AUTHORITY WAS CHOSEN CORRECTLY (T) AND INCORRECTLY (F) IN SET II, AND WHEN THE TRUE AUTHORITY WAS INDICATED IN SET III: BY THE REGARD OF THE SOURCES

When the subject regarded the sources in		Mean rating of quotations									
Set II	F1	1.39	F1	1.16	F1	1.29	F1	0.95	F1	1.17	
Set III	T1	1.19	T2	1.03	T5	1.09	T8	0.65	T9	0.98	
Set II	F2	0.95	F2	0.90	F2	0.84	F2	0.85	F2	0.70	
Set III	T1	1.12	T2	0.95	T5	0.59	T8	0.70	T9	0.40	
Set II	F5	0.45	F5	0.32	F5	0.37	F5	-0.05	F5	0.35	
Set III	T1	1.13	T2	0.70	T5	0.42	T8	0.10	T9	0.12	
Set II	F8	0.16	F8	0.28	F8	-0.04	F8	0.01	F8	-0.03	
Set III	T1	1.03	T2	0.72	T5	0.29	T8	-0.01	T9	-0.04	
Set II	F9	-0.05	F9	-0.66	F9	-0.44	F9	-0.63	F9	-1.11	
Set III	T1	0.91	T2	0.31	T5	0.04	T8	-0.27	T9	-0.99	
Set II	T1	1.30	T2	0.83	T5	0.35	T8	-0.12	T9	-0.84	
Set III	T1	1.40	T2	0.82	T5	0.32	T8	-0.13	T9	-0.83	
		Mean rating of quotations									
Set II	F1	1.79	F1	1.59	F1	1.71	F1	1.53	F1	1.78	
Set III	T1	1.69	T2	1.39	T5	1.56	T8	1.11	T9	1.62	
Set II	F2	1.38	F2	1.21	F2	1.19	F2	1.19	F2	1.19	
Set III	T1	1.38	T2	1.26	T5	0.85	T8	0.88	T9	0.77	
Set II	F5	0.54	F5	0.44	F5	0.33	F5	0.04	F5	0.55	
Set III	T1	1.54	T2	0.87	T5	0.45	T8	0.08	T9	0.20	
Set II	F8	0.09	F8	0.04	F8	-0.08	F8	0.30	F8	-0.25	
Set III	T1	1.50	T2	0.97	T5	0.56	T8	-0.06	T9	-0.80	
Set II	F9	0.00	F9	-0.88	F9	-0.50	F9	-0.80	F9	-1.74	
Set III	T1	1.37	T2	0.50	T5	0.13	T8	-0.21	T9	-1.67	
Set II	T1	1.67	T2	1.14	T5	0.51	T8	-0.26	T9	-1.59	
Set III	T1	1.72	T2	1.11	T5	0.38	T8	-0.23	T9	-1.59	

the difference in regard for the false and true authors at the two successive administrations. Table 4 shows these obtained differences in ratings as a function of the differences in steps of regard for authors in Set II and in Set III.

When the true authority indicated in Set III was regarded more highly than the supposed but incorrect authority in Set II, the quotations were rated more favorably. When the improvement in regard for sources is plus one step (from *F9* to *T8*, or from *F8* to *T5*, or from *F5* to *T2*, or from *F2* to *T1*), the quotations are rated .3 higher by means and .4 higher by medians. When the improvement in regard for sources is two steps, the quotations are rated .6 and .8 higher, by means and medians respectively. When the improvement in regard for sources is three or four steps, the corresponding upward shifts in the rating of quotations is .9 and 1.4, respectively.

When the true authority is regarded less highly than the supposed but incorrect source, the quotations in general are regarded less favorably. The downward shift, however, is neither large nor consistent.

There are two values which serve to check the consistency of the general results. The first value is obtained by using all those cases in which the supposed but incorrect author was esteemed just as highly as the true authority. The cases of *F1T1*, *F2T2*, *F5T5*, *F8T8*, and *F9T9* give a weighted average change of $+.034$ by means and $+.041$ by medians. The second value is obtained by using all those cases in which the true authority was correctly chosen in Set II. The cases of *T1T1*, *T2T2*, *T5T5*, *T8T8*, and *T9T9* give a weighted average change of $+.014$ by means and $-.023$ by medians. Any reasonable allowance for this slight deviation from zero would not affect our interpretations. When regard is equal in two administrations of the quotations, the fact that the average rating is unchanged is important for the theory of attitudes and attitude change.

For each weighted average, the standard deviation was computed. The significance of such averages can be approximated by the ratio of the weighted average to its standard deviation. (Further, since each average is itself a difference between two averages, the significance is that of the weighted mean difference.) For -4 , -3 , -2 , -1 step's difference in regard, the ratios of the differences in rating to their standard deviations are $-.89$, -1.28 , -1.20 , -1.15 .

Although the ratio of the difference in the mean rating of the quotation to the standard error of the difference falls short of Fisher's criterion value, 2.0 (corresponding to a likelihood of occurrence by chance of 1 in 20), the consistency shown by the fact that each of these ratios is in the negative direction makes the inference that the ratings of the quotations are influenced by a negative difference in regard for the sources seem fair. For positive differences in regard, the ratios of the differences in the mean rating of the quotations to the standard deviations of the differences is +2.24, +4.09, +6.14, and +6.70 for +1, +2, +3, and +4 steps. These differences (+.31 for +1, +.56 for +2, +.94 for +3, and +.96 for +4 steps) are clearly not due to chance. The inference that an increase in esteem for the true author over that in which the presumed author is held will result in higher ratings of the quotations regardless of the merit of the quotation is consistent with the facts and reliably demonstrated.

Using the instances in which the shift in regard for sources is zero, the differences in the ratings of the quotations at the first and second administrations are +.034 and +.014. Differences of that order would occur by chance seven or eight times out of ten.

Ratings of the sources which preceded the administration of Sets II and III might be considered as expressive of settled attitudes toward those sources. Ratings of the quotations in Set II and in Set III might be considered as tentative attitudes. If the supposed authority is regarded *more* highly than the true authority, the tentative attitudes as shown by the differential ratings of quotations under the two conditions change but little toward lower ratings. If the supposed authority is regarded *less* highly than the true authority, the tentative attitudes change reliably toward higher and higher ratings consistently with the amount of the differential in esteem.

The fact that the difference in the ratings of the quotations in the two administrations is a function of the difference in esteem between presumed and true sources may be interpreted in several ways. If the presumed source and the true source with the esteems corresponding thereto are considered as verbal symbols of settled attitudes on the part of the subjects, that fact may be considered as portraying the effect of settled attitudes (and whatever accompanying set of personality or mind they may express) upon tentative attitudes.

(Nothing in this experiment indicated whether the administrator of the experiment held views in agreement with the quotation.) The settled attitudes concerned were those in the subject not those in the author, and were utilized in each evaluation of the quotation. Knowledge of the true source in no wise exerted overt and external propaganda or suggestion pressure. The pressure was in the subject. The implications of the impact of settled attitudes upon tentative attitudes, or tendency to judgment, are made manifest. The time between the rating of the sources and the two ratings of the quotations was large enough to preclude such clear memories of previous ratings as might determine the new rating. The organization of the experiment was such that subjects could not see with clarity the purpose of the experiment. The facts found can be attributed only to the settled attitudes of the subjects toward the authors who had won greater or less degrees of esteem from them.

From another point of view, the ratings of the sources might be considered in terms of the prestige of each source for the subject. The interpretation of the effect of prestige-changes upon the ratings is equally apparent.

Thorndike and his students have been working intensively with the influence of rewards and of punishments for the last decade. The general scope of their experimentation has been to present stimuli to which the subject was required to make one response from among many. If the response made to the stimulus was correct, as per an arbitrary key, the experimenter said "Right," or "You are doing finely," or said "Right" and gave some monetary reward. If the response to the stimulus was not correct as per the key, the experimenter said "Wrong," or said "Wrong" and gave an electric shock. In all these numerous experiments with all types of subjects (children and adults, idiots, morons, normals, and superior intellects) the results have shown that $S \rightarrow R$ bonds followed by reward or by reward plus the informative "*Right*" are learned. It is always found that, when the same stimuli are represented a second, or a third, or a fourth, or a fifth time after an interval filled with other stimuli, the percentage of repetition of the responses that were so rewarded is high and significantly greater than chance repetition. On the other hand, for stimuli answered by a response which elicited the after-effect of punishment or punishment plus the informative "*Wrong*,"

the percentage of repetition, although greater than chance, was not significantly so. The general interpretation of the Thorndike experiments is that learning occurs by virtue of reward and that punishment does not offset the effect that the occurrence of the wrong connection produces. The reward, or the reward plus its informative value act to confirm or "O.K." or otherwise signalize the acceptability of the response. The punishment does little or nothing. The results of the present experiment may be considered as contributing further data to the field of reward and punishment. They may be interpreted in the light of the known facts about rewards and punishments.

In the experiments of Thorndike and his students the reward or the confirming reaction was instigated in the form of a statement of "Right" or "Experts agree with you," etc. This experiment differs from those of Thorndike in that the confirming reaction arose from the person's self-acceptance of the authority of the source. Nothing in our experiment gave a clue as to the esteem with which the sources were intended to be endowed. The subject had some more or less definite notion as to his own general appreciation of the sources. Such general appreciation might be considered as the prestige of the source for the subject, or as the settled attitude of the subject about the source. To put this force of prestige or of settled attitude to work, all that was done was to indicate the true authority for a quotation. If the subject held the presumed but incorrect source in little esteem, and was shown that the quotation was written by an author whom he held in higher esteem, the shifts in valuation placed upon the quotation can be viewed as a function of the confirming reaction aroused by his esteem for the source.

When attention is called to some quotation from a source regarded highly by a person, there is a tendency for the "confirming reaction" to "O.K." the quotation. The symbol (the name of the source) acts as a signal. It may be a different signal for each subject, but it is the kind of signal which acts as an after-effect to confirm a reaction or give direction to an attitude. In a *reward and punishment* experiment, the announcement "Right" or "Wrong" is an after-effect in no less a sense than money or shock is. A pleasant smile, a casual "Good," a nod from a superior can confirm reactions. In much the same way, the high regard for the presumed or known source

of a quotation may confirm or "O.K." the acceptability of the quotation. The high regard for certain authorities by individuals used in our experiment tended to cause statements to be regarded more highly. Confirming reactions work not only to influence directly connections to which they belong but also to "spread" or "scatter" to connections near them in time.

Just as punishment does little or nothing to eliminate wrong responses from the repertory of an individual, neither does the realization of the fact that the real author is regarded less favorably than the presumed one seem to influence significantly or consistently the evaluation of the quotation.

Whether this experiment is regarded from the point of view of the influence upon evaluating quotations of prestige, or of suggestion, or of settled attitudes, or of confirming reaction, it is clear that change occurs by positive prestige, positive suggestion, positive attitude, or by confirming reactions in the subject. Attitudes can be changed more readily by utilizing the positive aspects of regard than the negative. Opinions are changed in the direction of agreement rather than of opposition.

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RELATIONSHIPS BETWEEN THE YOUNG WOMAN'S CONCEPTIONS OF HER INTIMATE MALE ASSO- CIATES AND OF HER IDEAL HUSBAND*

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That personality is not something existing apart in each individual, but a mental content which derives its significance through the interaction of many individuals, is a well-known tenet of current social psychology. In the interplay of social life, persons form conceptions of themselves and of others. These conceptions are inter-related in the experience of the person.

The present paper is a report of a study which aimed to measure the relationships between the conceptions of others held by a large number of persons. It is based on the fact that a knowledge of these judgments furnishes indexes of that person's conception of the other or others.

With this point of view we proceeded to test the hypothesis, suggested by Freudian psychology, that the typical young woman forms a conception of an ideal husband which is more closely associated with her conception of her father than with that of any other most intimate male associate.

In order to test this hypothesis, a device was adopted whereby indexes were derived which gave estimates of the intensity and significance of the relationship between the girl's conception of the ideal mate and the father, the most intimate male relative other than the father, and the most intimate non-related male companion, each in turn.

About 600 college women acted as subjects for the study. The results showed that the conception of the ideal husband held by these women was, in general, more closely associated with that of the non-related male companion than with either the father or other male relative.

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METHOD OF SECURING DATA

In securing data a paired comparison device was used whereby subjective judgments could be objectively recorded by simple under-scoring. A schedule was prepared in which three sets of paired attributes were listed. Two of these were made up from six general interests and from six corresponding rôles or occupational interests, each falling within one of the general fields of attention. These interests and rôles, suggested by Spranger's analysis (5) of evaluative tendencies in man, were as follows.

INTEREST	CORRESPONDING RÔLE
Science	Inventor
Politics	Senator
Religion	Clergyman
Social Betterment	Public Benefactor
Art	Musician
Business	Manufacturer

Each interest was paired with each other interest and each rôle was paired with each other rôle. A repetition (included as a check on the consistency of the judges) in each group made 16 joined factors in each set. These formed parallel series the comparative results of which could be used to test the reliability of the data.

The other set of personal characteristics which was included in the schedule consisted of what we have called personality traits. Of the many lists of such traits which were available, that one made up by R. B. Cattell and used (2) by him in his study of temperament, offered the most suitable material for our purpose. From this and other lists the following 20 traits were chosen.

Sociable	Talkative	Conservative
Tactful	Adaptable	Cooperative
Frank	Careful	Helpful
Persistent	Reticent	Self-confident
Confident	Dominant	Self-assured
Energetic	Submissive	Cautious
Cheerful	Progressive	

Of these, nine traits—sociable, tactful, frank, persistent, confident, energetic, cheerful, talkative, adaptable—were paired each with every other, making a total of thirty-six paired traits. Two of these pairs were repeated, increasing the number to thirty-eight. Of the remaining traits, six were used to form three paired opposites. These were: talkative-reticent, dominant-submissive, progressive-conservative. The

remaining six traits consisted of pairs of synonyms. These synonymous traits were: helpful, cooperative; self-confident, self-assured; cautious, careful. These were paired as follows: self-confident-helpful; cooperative-self-assured; cautious-helpful; careful-cooperative; cautious-self-assured; and careful-self-confident.

The pair, cautious-helpful, was repeated as a further means of checking consistency of the final test scores. All of these paired personal traits were finally mixed together and placed between the paired interests and rôles in the schedule. In all there were 80 pairs of factors in the test arranged as follows.

FUNDAMENTAL INTERESTS

- | | |
|-------------------------------|--------------------------------|
| 1. Science—Religion | 9. Science—Social Betterment |
| 2. Politics—Social Betterment | 10. Business—Art |
| 3. Religion—Business | 11. Science—Politics |
| 4. Art—Science | 12. Social Betterment—Business |
| 5. Social Betterment—Religion | 13. Art—Politics |
| 6. Business—Science | 14. Business—Religion |
| 7. Religion—Art | 15. Art—Social Betterment |
| 8. Business—Politics | 16. Politics—Religion |

PERSONALITY TRAITS

- | | |
|--------------------------------|------------------------------|
| 17. Careful—Cooperative | 41. Cheerful—Frank |
| 18. Talkative—Reticent (quiet) | 42. Persistent—Sociable |
| 19. Self-confident—Helpful | 43. Frank—Adaptable |
| 20. Progressive—Conservative | 44. Confident—Cheerful |
| 21. Cautious—Helpful | 45. Persistent—Energetic |
| 22. Confident—Tactful | 46. Adaptable—Talkative |
| 23. Energetic—Frank | 47. Confident—Sociable |
| 24. Adaptable—Persistent | 48. Persistent—Talkative |
| 25. Energetic—Confident | 49. Careful—Self-confident |
| 26. Persistent—Tactful | 50. Talkative—Frank |
| 27. Talkative—Confident | 51. Cheerful—Persistent |
| 28. Energetic—Adaptable | 52. Talkative—Sociable |
| 29. Tactful—Cheerful | 53. Energetic—Tactful |
| 30. Frank—Persistent | 54. Sociable—Adaptable |
| 31. Adaptable—Confident | 55. Tactful—Frank |
| 32. Sociable—Frank | 56. Sociable—Energetic |
| 33. Tactful—Talkative | 57. Frank—Confident |
| 34. Cheerful—Sociable | 58. Sociable—Tactful |
| 35. Adaptable—Tactful | 59. Cautious—Self-assured |
| 36. Cheerful—Talkative | 60. Energetic—Cheerful |
| 37. Confident—Persistent | 61. Helpful—Cautious |
| 38. Energetic—Sociable | 62. Self-assured—Cooperative |
| 39. Adaptable—Cheerful | 63. Dominant—Submissive |
| 40. Talkative—Energetic | 64. Frank—Persistent |

IDEAL RÔLES

- | | |
|--------------------------------|------------------------------------|
| 65. Clergyman—Senator | 73. Musician—Clergyman |
| 66. Musician—Public Benefactor | 74. Inventor—Senator |
| 67. Clergyman—Manufacturer | 75. Clergyman—Public Benefactor |
| 68. Public Benefactor—Senator | 76. Senator—Musician |
| 69. Musician—Manufacturer | 77. Manufacturer—Inventor |
| 70. Inventor—Clergyman | 78. Senator—Clergyman |
| 71. Senator—Manufacturer | 79. Inventor—Musician |
| 72. Public Benefactor—Inventor | 80. Manufacturer—Public Benefactor |

The subjects who acted as judges were instructed to underline in each pair of factors that attribute which they considered the more strongly represented in the person being judged. The complete schedule submitted to the subjects was mimeographed on five pages of standard size ($8\frac{1}{2} \times 11$) paper. Page 1 contained the title, four small blanks to be filled in by the subject, giving a code number, sex, academic rank, and age, while the rest of the page contained instructions for marking the test. Page 2 contained the 80 pairs of factors to be scored by the subjects for the fathers. The subjects were asked to judge him as remembered from their childhood and adolescent experience with him. They were also asked whether the father was living. The 80 pairs were repeated on page 3 of the test to be scored for the favorite male relative (other than the father). The subject was asked to indicate the relationship of the relative to herself, and to write his first name in a space provided at the top of the page. This was for the purpose of enabling the subject to keep well in mind the person being rated. Similarly the pairs were repeated on page 4 for the most intimate male companion (not a blood relative), and again on page 5 for the ideal husband.

THE SUBJECTS

This schedule was administered to about 700 college and university girls in the following nine schools: Skidmore, Smith, Vassar, and Wellesley in the East; University of Wisconsin, Oshkosh (Wisconsin) State Teachers College, University of Minnesota, and University of North Dakota in the Middle West, and University of Southern California in the West. From these, nearly 600 usable returns were received.

The subjects were young women of the upper ranks in college. In age they ranged from 17 to 26 (subject to error of statement) with a median age of slightly over 20. In the group, 41.9 per cent were seniors, 36.5 per cent juniors, 14.3 per cent graduates, and 7.3 per cent were sophomores.

In addition to the above information, our schedule required further facts regarding the persons being rated by the subjects on the paired comparison test. In response to these questions, 85.5 per cent of the girls stated that their fathers, whom they rated on page 2 of the schedule, were living, 8.8 per cent stated that their fathers were not living, while 5.7 per cent failed to respond to the question. The favorite male relative, scored on page 3 of the test by the subjects, was an older brother in 28.4 per cent of the cases. The other favorite relatives were: maternal uncles, 17.4 per cent; paternal uncles, 11.7 per cent; first cousins, 10.5 per cent; and grandfathers, 9.9 per cent. Twenty-two per cent of the girls failed to indicate the relationship of the relative whom they rated. The most intimate male companion of the subjects was a "friend" in 63.2 per cent of the cases, a fiancé in 14.5 per cent, a husband in 0.7 per cent of the cases, while 21.6 per cent of the girls failed to indicate the relationship of herself to the companion.

THE TECHNIQUE OF ANALYSIS

The raw data of this study consisted of a sample of 80 recorded comparative judgments of the father, the favorite male relative, the favorite male companion, and the ideal husband from each of nearly 600 university women. Without a linear hypothesis or a scale of equal and interchangeable units, we wished to devise a technique of analyzing these data to find whether they accorded with our working assumption that the typical girl's conception of an ideal husband is more closely associated with her conception of the father than with that of either of the other two associates. In order to test this hypothesis it was necessary to derive indexes which would give satisfactory estimates of the intensity and significance of the relationship between the girl's conception of the ideal mate and the father, the relative, and the companion each in turn.

The device adopted is a contingency technique by means of which relationship is measured in terms of probability of simultaneous occurrence or non-occurrence of two events. With our schedule of paired comparisons each recorded judgment represented a classification of the person rated into one, or the other, of two categories, for example, as more progressive than conservative or as more conservative than progressive. We were able then, by counting, to

determine what proportion of our subjects conceived of their fathers as belonging to the first and what proportion conceived of them as belonging to the second category of each of the 80 pairs of attributes. We could do the same for the ideal husband conceptions, and for the relative and the companion.

In order to illustrate our method of determining relationship, let us assume, for example, that 50 per cent of the subjects rate the father as conservative, while the other 50 per cent rate him as progressive. Suppose further that 50 per cent rate the ideal husband as progressive while the other 50 per cent rate him as conservative. Taking these percentages as representative of the populations of father and ideal husband conceptions, we can think of the case in terms of probability. If we make a random selection, the probability of getting a conservative-father conception is equal to the probability of getting a progressive-father conception (.50). The same is true of the husband conceptions.

In order to measure relationship in terms of these facts we make use of the well-known product theorem in probability. This theorem states that, if p is the probability of the occurrence of an event and p' is the probability of the occurrence of a second independent event, then p times p' is the probability of the joint occurrence of the two events. In our example, if the girls' judgments of the father and of the ideal husband arise entirely independently of each other, then about one-fourth ($.25 = .50 \times .50$) of the times the judgments would be alike "progressive" or "conservative" due to chance factors alone. If the observed proportion differs appreciably from one-fourth, we may test the discrepancy between observation and hypothesis by means of the Chi-square (X^2) method (3). If the departure from expectation is too great to be accounted for by chance, then a significant relationship is indicated and a further index may be derived to measure its intensity.

It is obvious that for any particular pair of attributes, any two persons may be judged alike in either one of two ways and as different in either one of two ways. This enables us to set up our data for analysis in fourfold tables. The analysis is illustrated in Table 1.

Each compartment of this table contains a column of four entries. The first of each column is the observed frequency (a, b, c, d). The second value is, in each case, the theoretical cell frequency (m).

TABLE 1
THE χ^2 TEST OF SIGNIFICANCE DERIVED FROM A FOURFOLD TABLE

Father	Ideal Husband		Total
	More interested in science than religion	More interested in religion than in science	
More interested in science than in re- ligion	326.00 (<i>a</i>)	53.00 (<i>b</i>)	379 (<i>a+b</i>)
	300.07 (<i>m</i>)	78.93 (<i>m</i>)	
	25.93 (<i>D</i>)	-25.93 (<i>D</i>)	
	2.24 (D^2/m)	8.51 (D^2/m)	
More interested in religion than in science	134.00 (<i>c</i>)	68.00 (<i>d</i>)	202 (<i>c+d</i>)
	159.93 (<i>m</i>)	42.07 (<i>m</i>)	
	-25.93 (<i>D</i>)	25.93 (<i>D</i>)	
	4.21 (D^2/m)	15.99 (D^2/m)	
Total	460 (<i>a+c</i>)	121 (<i>a+d</i>)	581 (<i>N</i>)

This frequency for cell *a* is calculated on the basis of the product theorem as follows:

$$\frac{(a+c)(a+b)}{N} = \frac{460 \times 379}{581} = 300.07$$

The other theoretical cell frequencies are obtained by subtraction from the marginal totals given by the observed results. The third number in each cell is *D*, the cell divergence of observation from expectation (*D* equals observed frequency minus theoretical frequency). In cell *a* our value *D* is positive. This indicates a positive association between father and ideal husband as these are classified. The final value in each cell of our table is D^2/m , the cell divergence squared, divided by the expected cell frequency. This value is the cell contingency. The sum of all of these is our measure of dispersion X^2 , which in this instance takes the value, 30.95. This value¹ is a measure of the variation of the observed from the expected frequencies in the fourfold table. The value Chi square is useful in that it may be referred to a prepared table² to find a corresponding value, *P*, the probability of getting as large or

¹Without calculating the expected values, it may be shown that χ^2 can be directly calculated by the formula

$$\chi^2 = \frac{(ab-bc)^2}{(a+b)(a+c)(c+d)(b+d)}$$

²See Fisher, R. A., *op. cit.*, p. 96.

larger discrepancy between observation and hypothesis due to random sampling errors. In practice a value of P equal to or smaller than .05 may be taken as indicative of significant relationship existent in the association tables. The Chi-square value of 30.95 corresponds to a very low value of P , and gives a very high degree of certainty that there is a significant relationship between the father and ideal mate conceptions as shown in the above table.

While X^2 measures the significance of the relationship in the association table, it does not measure the intensity of that relationship. The device used for the latter purpose may be referred to (1, 4, 7) as the Boas-Yulean phi (ϕ). Without computing Chi square, ϕ may be computed directly from the fourfold table.³ After X^2 has been derived however, ϕ^2 is very readily found as the ratio of Chi square to N , the total frequency represented in the table. The value ϕ is a regular product-moment coefficient of correlation, where moments are taken in class intervals about the center of the table as an arbitrary origin. It is an index that varies from -1.00 to $+1.00$. The signs must, however, be determined from the table from which the index is derived.

When judged by our subjects on the basis of interest in science and religion as shown in Table 1, the association between the father and ideal mate was indicated by a ϕ value of .23. Similar analyses showed that the relationship between relative and mate was indicated by a corresponding ϕ value of .14, while the association between companion and ideal mate was .29. Measures similar to these were calculated for every pair of attributes in the schedule.

The procedure described above may be called the method of total association. In addition to this, values of ϕ were calculated by the method of partial association, where the relationship between the ideal mate conceptions and those of each of the other conceptions, in turn, were measured while restricting the two persons not directly concerned in the measurement to first one and then the other of the two categories in the fourfold tables. In this manner indirect influences were eliminated by holding the relative and companion con-

3

$$\phi = \left[\frac{ND}{(a+b)(c+d)(a+c)(b+d)} \right]^{1/2}$$

ceptions constant while estimating the degree of association between the father and ideal mate, by holding the relative and father conceptions constant while estimating the association between the companion and ideal mate, and by holding constant the father and companion conceptions while estimating the association between the relative and ideal mate.

RESULTS

The technique just described was applied to each of the 80 pairs of characteristics included in the schedule. The resulting coefficients

TABLE 2
TABLE OF PHI AND DIFFERENCES. TOTAL ASSOCIATION TABLES SHOWING INTENSITY OF RELATIONSHIP BETWEEN FATHER, RELATIVE, COMPANION, AND IDEAL MATE CLASSIFIED ON THE BASIS OF FUNDAMENTAL INTERESTS*

Interest Pair	Phi			Differences		
	1 Father-Mate	2 Relative-Mate	3 Companion-Mate	4 1-2	5 3-2	6 3-1
1 (Sci-Rel)	.230	.144	.288	.086	.144	.058
2 (Pol-SB)	.173	.230	.357	— .057	.127	.184
3 (Rel-Bus)	.294	.214	.337	.080	.123	.043
4 (Art-Sci)	.251	.161	.283	.090	.122	.032
5 (SB-Rel)	.204	.180	.332	.024	.152	.128
6 (Bus-Sci)	.195	.187	.353	.008	.166	.158
7 (Rel-Art)	.318	.351	.333	— .033	— .018	.015
8 (Bus-Pol)	.240	.160	.245	.080	.085	.005
9 (Sci-SB)	.348	.192	.204	.156	.012	— .144
10 (Bus-Art)	.372	.188	.336	.184	.148	— .036
11 (Sci-Pol)	.230	.240	.286	— .010	.046	.056
12 (SB-Bus)	.187	.165	.346	.022	.181	.159
13 (Art-Pol)	.197	.197	.318	.000	.121	.121
14 (Bus-Rel)	.232	.202	.374	.030	.172	.142
15 (Art-SB)	.193	.164	.352	.029	.188	.159
16 (Pol-Rel)	.248	.251	.314	— .003	.063	.066
Total	3.912	3.226	5.058	.686	1.832	1.146
Mean	.244	.202	.316	.043	.115	.072
<i>s</i>				.066	.061	.087
<i>t</i>				2.606	7.541	3.310
<i>P</i>				.02	< .01	< .01

*Key to abbreviations of interests:

Sci—Science

Rel—Religion

Pol—Politics

SB—Social Betterment

Bus—Business

Art.

of association, ϕ , required further analysis in order to determine their meaning relative to our hypothesis. This analysis was made separately for the interests, traits, and rôles series. The detailed analysis of the coefficients of total association derived from paired interests is shown in Table 2.

Columns 1, 2, and 3 of this table show the measures of relationship between the recorded judgments of the ideal mate and the father, relative, and companion in succession. The last three columns show the differences between these measures. These differences show that in all of the 16 cases, except one, the values, ϕ , in column 3 are larger than are those in column 2, that in all but two cases they are larger in column 3 than in column 1, while in all but four cases they are larger in column 1 than in column 2.

The association then, as here measured, is in general relatively high between the companion and ideal mate, relatively low between the relative and ideal mate, and intermediate between the father and ideal mate judgments. The average values, ϕ , are .32, .20, and .24, respectively. Hence, it appears that the ideal husband is most a reflection of the companion and least of the relative. Before we can legitimately draw this conclusion, however, we must determine whether the differences between these averages are significant or whether they may be attributed to chance.

If the discrepancies recorded in Table 2 were chance differences, then in the long run they would distribute themselves at random about zero as a mean. The departures from zero are rather large in each case as shown in the footings of the difference columns. The statistical significance of these departures has been tested by means of the t test described by R. A. Fisher (3). The distribution of t for a random sample of a normal population distributed about zero as a mean is calculated as

$$t = \frac{\bar{x} - \mu}{s/\sqrt{N}}$$

where $\bar{x}$ is the mean, N the number of items in the sample, and s the estimate of the standard deviation of the distribution⁴ of items. Knowing the value, t , we can turn to a prepared table⁵ to find the

$$s^2 = \frac{\sum (x - \bar{x})^2}{N(N-1)}$$

⁵Fisher, *op. cit.*, p. 139.

corresponding P , the probability of securing as high or higher value in random sampling. As shown in Table 2 our differences are on the average too large to be attributed to chance and are, therefore, to be interpreted as significant. When classified on the basis of the fundamental interests the ideal husband, as conceived by our subjects, is more closely associated with the companion than with either the father or the relative, but more closely associated with the father than with the relative.

Precisely this same procedure was carried through with the coefficients of partial association derived from the interest categories when the two persons not directly concerned in the measurement were restricted to one or the other of the classifications. In using the partial-association tables all were rejected where the total number of simultaneous judgments represented were as low or lower than 100. This gave 20 usable tables for the interest pairs, and hence 20 values, ϕ , for each of the father-mate, relative-mate, and companion-mate relationships. The average values of these sets of 20 Phi's were .189, .144, and .246, respectively. These mean coefficients are somewhat smaller than in the case of the total associations, showing that some of the relationships were indirect in each case as first analyzed. However, the two sets of mean Phi's are strikingly similar to each other in their relative sizes and each is to be given the same interpretation.

The results of the analysis of these partial Phi's are summarized in Table 3. As this table indicates, the differences between these mean

TABLE 3
SUMMARY ANALYSIS OF PARTIAL PHI'S DERIVED FROM PAIRED INTERESTS

Calculated index	Average Values Phi			Analysis of differences		
	Father-mate 1	Relative-mate 2	Companion-mate 3	1-2	3-2	3-1
Mean	.189	.144	.246	.045	.102	.057
s				.099	.106	.097
t				2.033	4.285	2.670
P				.05	<.01	<.02

values, ϕ , are in two cases much too large to be attributed to chance. The difference of .045 between the mean Phi for father-mate and that

for relative-mate might occur from chance factors in random samples about once in 20 trials.

The paired rôles which were included in our schedule and scored by our subjects have been analyzed in precisely the same manner as were the interests. A summary of the results are shown in Tables 4 and 5.

TABLE 4
SUMMARY ANALYSIS OF TOTAL PHI'S DERIVED FROM PAIRED RÔLES

Calculated index	Average Father-mate 1	Values Phi Relative-mate 2	Companion-mate 3	Analysis of differences		
				1-2	3-2	3-1
Mean	.270	.209	.324	.061	.115	.054
<i>s</i>				.059	.060	.055
<i>t</i>				4.136	7.718	3.927
<i>P</i>				.01	<.01	<.01

TABLE 5
SUMMARY ANALYSIS OF PARTIAL PHI'S DERIVED FROM PAIRED RÔLES

Calculated index	Average Father-mate 1	Values Phi Relative-mate 2	Companion-mate 3	Analysis of differences		
				1-2	3-2	3-1
Mean	.219	.136	.254	.083	.118	.035
<i>s</i>				.068	.085	.063
<i>t</i>				5.725	6.479	2.606
<i>P</i>				<.01	<.01	<.02

An examination of Tables 4 and 5 shows that, when our subjects rated their ideal mate and male associates on the basis of interest in the rôles, they made judgments that were consistent to a very high degree with those made in terms of the more general interests. Our analysis of these two sets of judgments leads to exactly the same conclusion, namely, that the typical college girl conceives of an ideal mate who is more closely related to her conception of her companion than to either her father or relative, but who is more closely associated with her father than with the relative conception.

There were 48 pairs of personality traits which were scored by the subjects for father, relative, companion, and ideal mate. The analysis of these gave 48 total and 76 partial coefficients of asso-

ciation for each relationship being measured. A summary of this analysis is shown in Tables 6 and 7.

TABLE 6

SUMMARY ANALYSIS OF TOTAL PHI'S DERIVED FROM PAIRED TRAITS

Calculated index	Average Values Phi			Analysis of differences		
	Father-mate 1	Relative-mate 2	Companion-mate 3	1-2	3-2	3-1
Mean	.121	.139	.207	— .018	.068	.086
<i>s</i>				.064	.061	.053
<i>t</i>				—1.948	7.673	11.242
<i>P</i>				>.05	<.01	<.01

TABLE 7

SUMMARY ANALYSIS OF PARTIAL PHI'S DERIVED FROM PAIRED TRAITS

Calculated index	Average Values Phi			Analysis of differences		
	Father-mate 1	Relative-mate 2	Companion-mate 3	1-2	3-2	3-1
Mean	.112	.129	.199	— .017	.070	.087
<i>s</i>				.047	.040	.039
<i>t</i>				—3.153	15.256	19.448
<i>P</i>				<.01	very small	very small

A scrutiny of these tables shows that this analysis of the trait judgments and their correlation is, in general, similar to that previously shown for the interests and rôles. The chief differences are that the average coefficients are lower, that the corresponding total and partial Phi's are near the same in value, and that the average association between the relative and ideal mate is somewhat higher than that between the father and ideal mate conceptions.

Again we may conclude that college girls conceive of an ideal husband who is more like her companion than like either her father or other most intimate relative. Judged on the basis of the personality traits, the average association between the girl's conception of the father and ideal mate is less than that between the relative and ideal mate. This average difference is, however, very small and such as might occur by chance about once in 20 samples in case of the total Phi's, but a little less than once in 100 samples in case of the partial coefficients.

We may summarize the foregoing results by bringing together all average coefficients of association for comparison in Table 8.

TABLE 8
ABSOLUTE AND RELATIVE VALUES OF THE AVERAGE PHI'S FOR ALL
RELATIONSHIPS

	Father-mate		Relative-mate		Companion-mate	
	Relative	Absolute	Relative	Absolute	Relative	Absolute
Interests						
Total Phi's	100	.244	83	.202	129	.316
Partial Phi's	100	.189	76	.144	130	.246
Rôles						
Total Phi's	100	.270	77	.209	120	.324
Partial Phi's	100	.219	62	.136	116	.254
Traits						
Total Phi's	100	.121	115	.139	171	.207
Partial Phi's	100	.112	115	.129	178	.199

RELIABILITY

There are three criteria by means of which we may judge the consistency of the subjects who scored our schedule. In the first place, there were five pairs of attributes which were repeated in the original schedule. The percentage of subjects who underscored one attribute of a pair was compared with the percentage who marked the same characteristic in the repeated pair. The discrepancies were then used as measures of consistency. In the cases of four of these repeated pairs, the discrepancies were all within the expected error limits. In the fifth pair, "helpful-cautious," the discrepancies were too large to be attributed to chance. This may have been due to ambiguities inherent in the terms used.

The second means of determining reliability consisted in correlating the percentage scores for the 16 pairs of interests with those for the parallel series of paired rôles. This procedure gave four sets of scores for comparison: one set for the father judgments, one for the relative, one for the companion, and one set for the ideal husband. These in turn gave reliability coefficients as follows: .84, .89, .90, and .84. Interpreted on the basis of the Spearman-Brown formula these became, respectively, .91, .94, .95, .91, indicating a very satisfactory degree of reliability.

A third method of checking the reliability of our scores consisted

of an application of Thurstone's law of comparative judgment to the interests, rôles, and traits which were paired each with every other one (6). From the observed percentage ratio scores, scales of attributes were derived for each of the four persons rated by the subjects. From each of these scales consistent ratio scores were calculated for comparison with the observed proportions. The average discrepancies between these sets of proportions were found in no case to be larger than 3.7 per cent, though no one was smaller than 3 per cent. These results may be taken as indicating a very satisfactory degree of internal consistency in the ratings.

VALIDITY

The assumption has been made throughout this study that the phenomena being measured were the girl's *conceptions* of her father, her relative, her companion, and of her ideal husband, and that our coefficients of association were indexes of the relationships between these conceptions, which were made up of a large number of comparative judgments.

The usual method of establishing the validity of a test is that of correlating with some independent criterion or criteria. In this case we have no strictly independent indexes with which our results may be compared. Our indexes are all derived from enumerations of human judgments. In a sense nothing can be more reliable than these. There is still the question, however, as to whether the ratings returned by our subjects represent bona fide judgments of the persons we suppose them to represent. Is it possible that the judges may have scored the test at random, or for some persons other than those asked for, or may have reacted merely to words on the printed page?

It is difficult to see what motive judges could have had for rating any other than the persons indicated in the test as these were conceived by the judges. If random reaction or reactions merely to choice of words had been the basis of the ratings, then our results would be lacking in stability.

It would seem then that the determination of validity is largely a matter of finding the internal consistency of our results. Hence, we may take our discussion of reliability as having a definite bearing on the question of validity.

We may further examine our results with reference to internal

consistency by referring to Table 8 above. The relative values of the mean coefficients of total and partial association show a surprisingly high degree of correspondence within each of the three types of paired attributes. This is significant in that the total association indexes are derived from all scores, while the partials are derived from only a part.

CONCLUSIONS

This analysis of the results enables us to answer the fundamental question with which we started, and to draw certain other conclusions.

1. *Do women students of upper rank in college in general build up a conception of an ideal husband who is more closely associated with their conception of the father than with any other most intimate male associate?* The answer is in the negative. In all tests herein described the girl's conception of the ideal mate is more closely associated with that of her companion (not a blood relative) than with either her father or other favorite male relative. This may be due to the influence of the romantic trend in college girls which causes them to conceive of their companion in highly idealized terms.

2. When judged on the basis of the personality traits, our subjects associated the relative (as well as the companion) more than the father with the ideal mate.

3. When judged on the basis of the interests and rôles, our subjects thought of the ideal mate as more closely associated with the father than with the relative. This may be due to the fact that the father, being in general older, is more stable and consistent in his interests.

4. The results of this study have little or no bearing on the well-known Freudian assumption of the *electra* tendency in women. This tendency is one considered to be deeply buried in the unconscious. It might be revealed through the technique of the psychoanalytic interview. It would, however, be impervious to the method here employed.

SUMMARY

1. This study aimed to test the hypothesis, suggested by Freudian psychology, that young women form conceptions of ideal husbands

who are more closely related to their conceptions of their father than to that of any other most intimate male associate.

2. Four sets, each containing 80 pairs of human attributes of an attitudinal or behavioral nature, were submitted in the form of a paired comparison test to approximately 600 young women of upper rank in college. These were used by the girls as a basis for recording their judgments of the father, the most intimate relative, the most intimate companion, and the ideal husband, by underscoring the attribute in each pair which they considered the more characteristic of the person being rated.

3. The scorings on each pair of attributes were analyzed separately. This was done by counting the number of subjects who judged the father like the ideal mate in one or the other of the two possible ways and the number who judged the father different from the ideal mate in one or the other of the two possible ways. The same enumerations were made for the relative and for the companion and ideal mate.

4. These enumerations were used as basic data and were recorded in fourfold contingency tables which were set up to reveal associations between the ideal mate judgments and those for the father, relative, and companion in turn.

5. The relationship in each of these tables was analyzed by using the Chi-square test as the measure of significance and the Boas-Yulean Phi as the measure of the intensity of association.

6. These coefficients of association were further studied by comparing those showing the association between father-mate, relative-mate, and companion-mate, and by testing the significance of the difference by using the Fisher *t* test.

7. This same procedure was applied to total association tables and also to partial tables in which the two persons not directly concerned in the relationship measured were restricted to one or the other of the two judged attributes.

8. All results showed, in general, that, as judged by the subjects, the ideal mate is more closely associated with the male companion than with either the father or other most intimate blood relative.

9. Reliability was tested by correlating scores on two parallel parts of the schedule. These gave coefficients ranging from .90 to .95 when interpreted by the Spearman-Brown formula.

10. Validity is indicated by logical analysis and by the high degree of internal consistency of the scores.

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THE CONSTRUCTION OF A BELIEF-PATTERN SCALE FOR MEASURING ATTITUDES TOWARD FEMINISM*¹

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The purpose of this article is to present the results of experimentation with a somewhat novel method of attitude test construction as applied to a scale for measuring attitudes toward Feminism. Superficially viewed, the method seems to be a turning back from the more refined methods of test construction devised by Thurstone and others to the older questionnaire method. Actually the method rests on an elaborate conceptual analysis which has been set forth elsewhere and needs to be evaluated with reference to that analysis as well as on empirical grounds (2, 3). As applied to certain problems the method may prove to have some advantages over other methods. The method is calculated to yield scales which (*a*) reflect a culture pattern, (*b*) have inherent validity as a reflection of the issues pro and con of that pattern, (*c*) permit qualitative or configurational analysis of the scores, (*d*) reflect cultural attitudinal inconsistency of subjects, (*e*) avoid forcing false alternatives on the subject and present an adequate variety of specific propositions, and (*f*) yield scores which have a common-sense meaning and which are in accord with the theory of measurement as the derivation by *counting* of multiples of relatively equal and interchangeable units. Such scales may prove to have value in the analysis and prediction of success in marriage as well as in throwing light on problems of sex antagonism and economic competition and culture conflict.

SELECTION OF PROPOSITIONS

By a procedure previously described, an outline of Feminism as a culture pattern was prepared consisting of forty issues divided into

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four categories of ten issues (2). The next step consisted of preparing propositions to fit the various issues of the Feminism pattern. Some 386 propositions were written on cards, about half of them being *pro* with respect to Feminist issues and about half of them *con*. Many of the propositions were adapted from a list of 86 official resolutions of Feminist organizations that had previously been prepared.

No attempt was made to make the Anti-Feminist proposition concerning an issue the specific negative of the Feminist proposition, as it was desired to avoid "blanket" reactions and incentives to purely logical consistency. An attempt was made to put the propositions into a strictly evaluational form. Some attempt was made to keep the vigor of expression fairly constant, although it was assumed that in total scores extremes would tend to cancel each other out.

The propositions were submitted for classification to judges who were instructors and graduate students in sociology. Each judge was presented with a large cardboard surface marked with instructions and with squares indicating the various categories of the Feminism Outline presented in another article. All of the statements were classified by thirteen judges into the two general categories, Feminist and Anti-Feminist. All of the statements in the Feminist grouping were then sub-divided into the four following sub-categories: (a) economic, (b) domestic, (c) political-legal, and (d) conduct and social status. A similar classification was made of the cards bearing the Anti-Feminist propositions. Three of the thirteen judges who had most time to devote to the laborious task further sub-divided the statements in each of the eight sub-categories with reference to the ten sub-headings listed under each one.

Forms *A*, *B*, and *C* of the belief-pattern scale each included 80 items: A *pro* and *con* item to fit each of the 40 issues of the Feminism Outline was selected from those which fulfilled the following criteria: (a) At least twelve of the thirteen judges must agree on the Feminist-Anti-Feminist classification of each proposition; (b) at least ten of the thirteen judges must agree on the sub-category classification; (c) at least two of the three judges making the more refined classification must agree on the classification of a proposition according to sub-heading.²

²The agreement of the judges on the eighty statements selected for Form

It is apparent that some degree of validity is inherent in a scale made up of items which fit an outline of Feminist issues and which are rather uniformly judged to be Feminist or Anti-Feminist propositions of a particular kind.

The items of the various forms were arranged so that a Feminist statement alternated with an Anti-Feminist statement. It was assumed, in spite of some danger of "blanket responses" that it would be best to have primacy and cumulative response and fatigue factors held constant in this way. Both Feminist and Anti-Feminist propositions were carried through recurrent cycles in which each of the four sub-categories was covered at regular intervals by a proposition. Form *A* of the belief-pattern scale is given below.

A BELIEF-PATTERN SCALE FOR MEASURING ATTITUDES TOWARD FEMINISM

- (1) You are requested to check (✓) from the following list those statements which you accept as expressing your own personal way of thinking and feeling. Opinions differ and your own view is as good as that of anybody else. If you feel in a certain way check (✓) the statements which express that feeling and leave other spaces blank.
- (2) If there are statements which you accept and feel strongly about then check them twice (✓✓).
1. Women have the right to compete with men in every sphere of economic activity ()
2. As head of the household the father should have final authority over his children ()
3. Disposal of real property or of common earnings by the husband without the consent of the wife should be forbidden by law ()
4. The unmarried mother is morally a greater failure than the unmarried father ()
5. Women have as much right to sow wild oats as do men ()

A was as follows: (1) All of the 13 judges agreed on the Feminist-Anti-Feminist classification for 72 of the statements, and 12 of the judges agreed on the classification for the remaining 8. (2) All of the 13 judges agreed on the sub-category classification for 66 statements, 12 judges for 10 statements, and 11 for 4 statements. (3) All of the 3 judges agreed on the classification according to sub-heading for 71 of the statements, and 2 of the judges agreed on the remaining 9.

The agreement of the judges on the eighty statements selected for Form *B* was as follows: (1) All of the 13 judges agreed on the Feminist-Anti-Feminist classification for 79 statements, and 12 agreed on the remaining 1. (2) All of the judges agreed on the sub-category classification for 70 statements, 12 judges for 9 statements, and 10 judges for 1. (3) All of the 3 judges agreed on the classification according to sub-heading for 71 of the statements, and 2 of the judges agreed on the remaining 9. The agreement was almost as close in the case of Form *C*.

6. A husband should have the right to dispose of family property as he may please ()
7. Parental authority and responsibility for discipline of the children should be equally divided between husband and wife ()
8. The influx of women into the business world in direct competition with men should be discouraged ()
9. The relative amounts of time and energy to be devoted to household duties on the one hand and to a career on the other should be determined by personal desires and interests rather than by sex ()
10. A woman who refuses to bear children has failed in her duty to her husband ()
11. There should be a strict merit system of public appointment and promotion without regard to sex ()
12. Women should be guided by men's view of decency in dress ... ()
13. Women have the right to decide for themselves what is proper in feminine dress ()
14. Women should not be permitted to hold political offices that involve great responsibility ()
15. The wife's desires concerning the number of children she is to bear should be respected by the husband ()
16. A woman who continues to work outside the home after marriage is shirking her fundamental duty to home and children ()
17. Women should be their own judges of fitness to enter a particular occupation ()
18. Retention by a wife of her maiden name is selfish and fanatical .. ()
19. It is medieval to permit a man to bring a damage suit for "loss of services" of his wife due to an accident ()
20. Only the very exceptional woman is justified in attempting participation in civic affairs ()
21. Contemporary social problems are crying out for increased social participation by women ()
22. The husband should be regarded as the legal representative of the family group in all matters of law ()
23. It is servile for a woman to give up her own name at marriage.. ()
24. Women should not be allowed entire freedom in their choice of occupation ()
25. Women should be given equal opportunities with men for vocational and professional training ()
26. No woman is too cultured to take responsibility for housework .. ()
27. If a husband is permitted to divorce his wife on account of insanity the same right should be accorded to the wife ()
28. There should be a sharp distinction drawn between men's and women's sports ()
29. Any form of athletics should be open to women who care to indulge ()
30. Fewer grounds for divorce should be permitted the wife as compared with the husband ()
31. Married women should struggle against enslavement by domestic obligations ()
32. Far too much money is wasted on vocational and professional training for women ()
33. Regardless of sex, there should be equal pay for equal work ... ()

34. A husband has the right to expect that his wife be obliging and dutiful at all times ()
35. A father has no more right to the earnings of offspring than does the mother ()
36. A woman to be truly womanly should gracefully accept chivalrous attentions from men ()
37. There is no particular reason why a girl standing in a crowded street car should expect a man to offer her his seat ()
38. The father should have a better claim to the earnings of a minor offspring than the mother ()
39. It is absurd to regard obedience as a wifely virtue ()
40. It is only fair that male workers should receive more pay than women even for identical work ()
41. There should be no legal restriction upon night work by women, even for identical work ()
42. The "clinging vine" wife is justified providing she clings sweetly enough to please her husband ()
43. To deny mothers the right of equal guardianship of their children is to perpetuate a ridiculous inequality ()
44. There are many words and phrases which are unfit for a woman's lips ()
45. The use of profane or obscene language by a woman is no more objectionable than the same usage by a man ()
46. A father should have preference as the legal guardian of a child ()
47. It is degrading for a woman to hold a husband by sheer physical charm ()
48. As newcomers into industry women should accept the arrangements of men in regard to hours and conditions of work ()
49. Acceptance by women of an inferior economic status is disgraceful ()
50. A man has the right to insist that his wife accept his view as to what can or can not be afforded ()
51. There is no valid reason why women should take the nationality of their husbands upon marriage ()
52. One should never trust a woman's account of another woman ()
53. It is unjust to say that women think in more personal terms than do men ()
54. The law which requires that women take the nationality of their husbands is a most logical one ()
55. Women should demand money for household and personal expenses as a right rather than as a gift ()
56. On the average women should be regarded as less capable of contributing to economic production than are men ()
57. The general belief that women are by nature too high-strung to hold certain jobs is no more true than many of our superstitions ()
58. Women who insist upon removing the word "obey" from the marriage service succeed in making complete fools of themselves ()
59. It is desirable that women be appointed to police forces and empowered to protect the rights of women offenders ()
60. A woman should not expect to go to the same places or to have quite the same freedom of action as a man ()

61. The morals of women should not be given any protection not given to the morals of men ()
62. It is absurd to appoint women as police ()
63. It is insulting to women to have the "obey" clause remain in the marriage service ()
64. Women are too nervous and high-strung to make good surgeons .. ()
65. It is foolish to regard scrubbing floors as more proper for women than mowing the lawn ()
66. An aversion on the part of a wife to sex intimacy with her husband should be repressed for the good of the family ()
67. The working wife who claims economic equality has no more right to alimony from her husband than he has right to alimony from her ()
68. Women should accept the intellectual limitations of their sex ... ()
69. It is foolish to question the intellectual equality of woman with man ()
70. Alimony is an appropriate protection for women as members of the weaker sex ()
71. Married women should have full control of their persons and give or withhold sex intimacy as they choose ()
72. Woman's work and man's work should be fundamentally different in nature ()
73. Society should seek to further the economic status of mothers through family allowances paid directly to the mother ()
74. It is naturally proper for parents to keep a daughter on the average under closer control than a son ()
75. The married woman should have the same right to make a will that is accorded to her husband ()
76. Women should always take the passive rôle in courtship ()
77. It is mere prejudice which prevents women from freely taking the initiative in courtship ()
78. It is a mistake to permit women to make legal wills ()
79. A daughter in a family should have the same privileges and opportunity as the sons ()
80. It is obviously more logical that a state family allowance be paid to the father than to the mother ()

METHOD OF SCORING

The basic assumption in scoring a belief-pattern scale is that Feminist and Anti-Feminist propositions may be considered in a positive-negative relationship. It is assumed that a Feminist proposition is positive, and an Anti-Feminist proposition negative, in the same sense that a dollar of assets is positive in relation to a dollar of liabilities. The total Feminist-Anti-Feminist (*FA*) score consists of the algebraic sum of the Feminist and Anti-Feminist propositions accepted by the subject taking the test.

The method of scoring is consistent with the view that measurement consists in deviation of quantitative variables to yield a multiple

of objective units which are equal and interchangeable with reference to the purpose at hand. Elsewhere the writer has distinguished between quantitative variables and qualitative variables derived by a process of rating or ordinal classification in numerical terms (3).

It may be argued, of course, that all of the propositions in the belief-pattern scale are different, and hence not equivalent. It is also true that dollars of assets may represent stocks, bonds, stock on hand, or even good will, and may be balanced by liability-dollars which are all qualitatively different. At least a score may be derived which has a common-sense meaning as a multiple of *something*, and which is made up of objective units which, on the average, are relatively interchangeable with reference to the purpose at hand. Statistical evidence will be presented later to show that item acceptances on one form of the test are, on the average, interchangeable with items on another form.

Another problem which presented itself in deciding upon the method of scoring was concerned with the intensity factor. It might be argued that one person accepted a proposition with greater intensity of feeling than another person, or that the same person checked different propositions with different intensity of feeling. According to certain scoring methods, notably the Likert Method, the feeling in regard to each proposition is usually indicated by the subject on a five-point scale (4). This introduces an arbitrary weighting, and yields a total score which does not have a clear-cut, common-sense meaning as a multiple of something tangible. While it seemed desirable to obtain, if possible, total and partial scores which were multiples of the excess of Feminist propositions checked over Anti-Feminist propositions checked, it also seemed desirable to see whether such a procedure could be justified on empirical grounds.

The directions on the belief-pattern scale included instruction to the subject to double check those propositions about which he felt strongly. Obviously, the double-checking procedure corresponds to a two-point intensity rating scale. It would be possible to give double weighting to all propositions double checked on the questionable assumption that the reaction of making a second check mark had the same psychological and statistical significance as making the first check mark beside a particular proposition. Six types of empirical evidence suggested the desirability of ignoring the second

check mark in massed data and computing total and category scores simply as the algebraic sums of positive Feminist propositions and negative Anti-Feminist propositions.

Form *A* was administered to 217 University of Minnesota students, for the most part sophomores in elementary sociology courses, during the winter quarter of 1934. Table 1 below indicates the

TABLE 1
PERCENTAGE FREQUENCY OF INTENSITY REACTIONS ON THE PART OF 217
UNIVERSITY OF MINNESOTA STUDENTS TAKING FORM *A*

Number of feminist propositions double checked	Percentage students	Number of anti-feminist propositions double checked	Percentage students
0	33.2	0	61.8
1	19.4	1	16.1
2	10.6	2	8.3
3	9.2	3	6.5
4	6.0	4	2.3
5	2.3	5	1.4
Over 5	19.3	Over 5	3.6

frequency with which the various propositions were double checked to indicate an especial intensity of feeling.

It will be noted that over 60 per cent of the students double checked less than three Feminist propositions, and over 80 per cent double checked less than three Anti-Feminist propositions. While the number of propositions double checked ranged from 0-22, it is apparent that relatively few students were inclined to express an intensity of feeling by the double checking of propositions.

It seemed desirable to investigate the reliability of double checking as a measure of intensity reactions. It seemed possible that subjects confronted with the possibility of recording intensity reactions might do so at random without any very stable or consistent feeling back of their behavior. It was possible to give Form *A* to 59 students and then to repeat the test after an interval of a week. It was found that 50 per cent of the propositions double checked on the first test were also double checked when the test was repeated. It was also found that 49 per cent of the propositions double checked on the second test were double checked on the test first given. As will be shown later, the consistency in checking propositions disregarding the second check mark amounted to over 80 per cent.

Intensity reactions are, therefore, distinctly less consistent than simple acceptance reactions.

As a further check upon the desirability of taking into account intensity reactions in dealing with mass data, a correlation was computed for 217 students between *FA* score and the algebraic sum of positive Feminist propositions double checked and negative Anti-Feminist propositions double checked. This correlation was $+.42$, with an S.E. of $.06$. The correspondence between acceptance reactions and intensity reactions is not extraordinary high and further suggests the questionability of combining and giving equal weight to acceptance reactions and intensity reactions.

As a further check upon the stability and significance of intensity reactions as expressed by double checking, a correlation was computed between the intensity scores on Form *A* and Form *B*. The correlation between the algebraic sum of Feminist and Anti-Feminist propositions double checked on Form *A* with the algebraic sum of Feminist and Anti-Feminist propositions double checked on Form *B* amounted to only $+.63$ (S.E., $.04$). This correlation of intensity reactions on the two forms should be interpreted with the fact in mind that the correlation between the simple *FA* scores on Forms *A* and *B* amounted to over $+.80$. This is further evidence of the instability and the uncertain meaning of intensity reactions as expressed by double checking.

It seemed desirable to correlate scores on Forms *A* and *B*, giving double weight to double-checked propositions, to see whether the correlation was raised by this method of scoring as compared with the simpler method of computing *FA* scores which was ultimately adopted. The correlation for the same experimental group of 217 University of Minnesota students proved to be $+.87$ with an S.E. of $.016$. This coefficient is lower than the r of $+.89$ (S.E., $.014$) which was obtained between the *FA* scores on Forms *A* and *B* for the same 217 students. Again no advantage is revealed in using the double-weight method of scoring to take into account intensity reactions.

Another test can be applied which is a test not only of the justifiability of ignoring the intensity factors as reflected in double checking but also of the average interchangeability and equivalence of propositions with reference to the purpose at hand. It is often

assumed that strength of propositions and intensity of reaction required to accept them is reflected in the proportion of a population which accepts these propositions. A group of 553 university students, 312 females and 241 males, were given Form *A* of the scale, and the percentage of these students who accepted each proposition of the scale was determined. These percentages were translated with the aid of a normal probability table into sigma scale values, an acceptance ratio of 50 per cent being regarded as 2.33 sigma. Sigma values of smaller percentage acceptances were added to 2.33, while the sigma values of percentages over 50 per cent were subtracted from 2.33 in order to indicate in sigma units increased weakness or general acceptability of these propositions. The item weightings, therefore, covered a range of about five sigma units. Substituting the sigma values for the one point ordinarily counted for each acceptance, scores were derived by taking the algebraic sum of Feminist and Anti-Feminist sigma values. The correlation for 217 cases between sigma value scores and simple *FA* scores proved to be $+.94$ with an S.E. of $.008$. While it is highly questionable to assume that the sigma values reflect in any absolute way the strengths of propositions, the fairly high correlation does yield added evidence that a sufficient number of acceptance reactions make possible average equivalence in spite of meaning and intensity differences between individual propositions.

It would seem that both theoretical and empirical considerations justify the choice of the simpler scoring method. It may well be that the current practice of presenting subjects with scales on which to indicate their intensity of reaction forces them by suggestion into the more extreme choices which are relatively meaningless and which do not imply psychological concomitants of the mathematical increments.

Total *FA* scores are, therefore, simply the algebraic sums of Feminist and Anti-Feminist propositions accepted. The four partial or category scores obtainable for each blank consist of the algebraic sums of Feminist and Anti-Feminist propositions accepted in the economic, domestic, political-legal, and conduct and status categories. Since there are 40 Feminist and 40 Anti-Feminist propositions, total *FA* scores may range from -40 to $+40$. Each of the four partial or category scores may range from -10 to $+10$. There is reason

to think that the intensity factor does find expression in this method of scoring. It is probable that there is an irradiation of feeling such that the person of strong convictions has his critical threshold lowered and is inclined to seize upon and accept propositions associated with the culture-attitude pattern with which he is identified. The double-checking feature was retained in the printed blanks because of its value in contributing to the diagnosis and comparison of the attitudes of individuals toward Feminism.

RELIABILITY OF THE SCALE

The test retest reliability of Form *A* of the belief-pattern scale was determined with a relatively small number of cases. University of Minnesota students, for the most part sophomores, were given the test on one occasion and a week later the same test was repeated. For these 59 students the Pearson coefficient of correlation between first and second test scores was $+.85$ with an S.E. of $.037$.

Another method of determining reliability was used which involved item comparison. It was found that 82 per cent of the propositions which were either checked or double checked the first time were also either checked or double checked on the retest. The same percentage of propositions checked on the second test were also checked on the first test. This percentage reliability is similar to percentages obtained by Cavan, Neprash, and Smith (1, 5, 6).

Another check upon reliability of the belief-pattern scale consisted of the correlation of different forms of the same test. Obviously this procedure is very similar to the split-half method. These correlations are extremely significant in that they bear upon the validity of the assumption that proposition acceptances are on the average relatively equal and interchangeable units. Forms *A* and *B* of the test were taken by 217 University of Minnesota students. The correlation between *FA* scores on Form *A* and *FA* scores on Form *B* for 217 students amounted to $+.89$, with an S.E. of $.014$.

Forms *A* and *C* were taken by 96 male students in the Wharton School of the University of Pennsylvania. The coefficient of correlation for the 96 students proved to be $+.94$, with an S. E. of $.012$.

During the fall quarter of 1934 it was possible to obtain another sample of University of Minnesota students in order to correlate Forms *B* and *C*. The correlation for 88 freshman and sophomore

students amounted to $\pm .90$, with an S.E. of .019. It is apparent that the different forms of the test with propositions bearing on issues different for the three forms gave essentially the same results. There is good empirical evidence for assuming the average interchangeability of acceptance responses.

It is true, of course, that high coefficients of reliability do not necessarily mean approximate identity of paired scores. Test scores on one form might be consistently high as compared with scores on the other form and yet vary concomitantly. The mean discrepancy of test scores and the standard deviation of discrepancies are presented together with the coefficients of correlation in Table 2.

TABLE 2
RESEMBLANCE OF TEST SCORES DERIVED FROM FORMS *A*, *B*, AND *C* OF THE BELIEF-PATTERN SCALE FOR MEASURING ATTITUDES TOWARD FEMINISM

Forms	Coefficient of correlation	Mean discrepancy between test scores	Standard deviation of score discrepancies (sign disregarded)
<i>A</i> & <i>B</i> (U of M)	$+.89$ S.E. .014	4.27	3.41
<i>A</i> & <i>C</i> (U of P)	$+.94$ S.E. .012	4.22	3.37
<i>B</i> & <i>C</i> (U of M)	$+.90$ S.E. .019	3.79	2.95

A comparison of means shows that the discrepancies between *FA* scores on different forms of the scale are not due to a constantly larger score on any one form. The results are given in Table 3

TABLE 3
COMPARISON OF MEAN CATEGORY AND TOTAL *FA* SCORES ON DIFFERENT FORMS OF THE BELIEF-PATTERN SCALE

Category	Form <i>A</i> 217 cases U of M	Form <i>B</i> 217 cases U of M	Form <i>A</i> 96 cases U of P	Form <i>C</i> 96 cases U of P	Form <i>B</i> 88 cases U of M	Form <i>C</i> 88 cases U of M
<i>FAE</i> (Ec.)	3.3	4.1	1.3	-0.8	4.6	1.2
<i>FAD</i> (Dom.)	1.4	-0.2	-0.5	1.0	-0.6	1.6
<i>FAP</i> (Pol.)	5.4	5.3	4.0	4.9	4.6	5.2
<i>FAC</i> (Con.)	1.5	1.8	0.4	0.7	1.1	0.6
<i>FA</i> (Total)	11.6	11.0	5.2	5.8	9.7	8.6

including the mean scores for the economic, domestic, political-legal, and conduct and status categories.

It is apparent that the mean total *FA* scores correspond fairly

closely when two forms are given to the same group of students. The agreement is not quite so close in the case of category scores, especially in the case of Forms *B* and *C*. It is to be noted, however, that the results from Form *C* correspond quite closely with the results from Form *A* when given to University of Pennsylvania students, except for the economic category score which in the case of Form *C* seems to be consistently low.

TABLE 4

COMPARISON BY FEMINIST AND ANTI-FEMINIST SUB-CATEGORIES OF MEAN SCORES FROM 217 UNIVERSITY OF MINNESOTA STUDENTS AND 96 MALE UNIVERSITY OF PENNSYLVANIA STUDENTS ON DIFFERENT FORMS OF THE SCALE

Category	217 U of M students		96 U of P students	
	Mean <i>A</i>	Mean <i>B</i>	Mean <i>A</i>	Mean <i>C</i>
<i>FE</i>	5.7	6.1	4.7	3.7
<i>FD</i>	5.6	4.2	5.0	5.5
<i>FP</i>	7.0	7.5	6.3	6.8
<i>FC</i>	4.7	5.0	4.7	4.6
<i>AE</i>	2.4	2.0	3.4	4.5
<i>AD</i>	4.2	4.4	5.5	4.5
<i>AP</i>	1.6	2.2	2.8	1.9
<i>AC</i>	3.2	3.2	4.3	3.9
<i>FAE</i>	3.3	4.1	1.3	-0.8
<i>FAD</i>	1.4	-0.2	-0.5	1.0
<i>FAP</i>	5.4	5.3	4.0	4.9
<i>FAC</i>	1.5	1.8	0.4	0.7
Total	11.6	11.0	5.2	5.8

A comparison is given in Table 4 of Minnesota and Pennsylvania scores broken down into Feminist (*F*) and Anti-Feminist (*A*) scores by economic (*E*), domestic (*D*), political-legal (*P*), and conduct and status (*C*) categories.

It is to be noted that there is a tendency for students to reject Feminist economic propositions on Form *C* as compared with Form *A* and to accept Anti-Feminist economic propositions. The inconsistency between the results of the two forms is greatest for the economic category.

The above-mentioned inconsistencies suggest another method of evaluating the reliability of the instrument, namely, a comparison of the proportion of students who accept propositions on Forms *A*, *B*, and *C*, covering the same issue on the outline of Feminism. In proportion as students are affected in their reactions by the approach

to a particular issue which is expressed in a given proposition and the mode of wording of that proposition, there will be a discrepancy in the proportion of students accepting corresponding propositions on different forms of the scale. The evidence bears, then, upon the interchangeability of propositions as units and the degree to which reactions to Feminist issues as meanings are independent of the verbal expression of these issues.

This approach also throws light upon the objectivity of this method of test construction. An even more valid test of these problems would be to have different forms of the test prepared independently by different persons from the same outline of Feminist issues. In the present instance the different forms of the test were prepared by the same person. There was no attempt, however, to make Anti-Feminist propositions the exact opposite of Feminist propositions or to make the different propositions of the three forms approach a particular issue in the same way. An instrument is valid in proportion as it evokes reactions to meanings rather than to verbalisms.

For the experimental sample of 217 University of Minnesota students the percentages accepting the comparable propositions of the same number on Forms *A* and *B* were compared. In the case of the 117 females in the experimental group the agreement in the percentage of students accepting comparable propositions on Forms *A* and *B* ranged from complete agreement as in the case of propositions No. 32 and No. 40 to rather complete disagreement in the case of proposition No. 13 which is checked by 89 per cent of the students on Form *A* and by only 13 per cent of the students on Form *B*. A rank order correlation was computed between the proportions of female students accepting comparable propositions on Forms *A* and *B*. This ρ proved to be $+.75$. In the case of the 100 male students the agreement ranged from 1 per cent divergence in the case of proposition No. 26 to a divergence in the case of proposition No. 15 such that 91 per cent of the students accepted this proposition on Form *A* while only 37 per cent accepted the comparable proposition on Form *B*. In the case of the male students the rank order correlation between the proportion of students checking comparable propositions on Forms *A* and *B* amounted to only $+.58$. The ρ between percentage of males and percentage

of females accepting each proposition was .77 for Form *A* and .84 for Form *B*.

VALIDITY OF THE BELIEF-PATTERN SCALE

It may be contended that there is a certain inherent validity in the belief-pattern scale in so far as opinion as one of the three components of attitudinal behavior may be taken as an index of attitudes defined as covert emotional-ideo-verbal behavior systems (2). All attitude testing through verbal propositions rests upon this assumption of a relationship between verbal expressions and emotional ideo-verbal systems or processes. If an outline of issues be accepted as a fair expression of the cultural movement, then an attitude test objectively derived from such an outline of issues has corresponding validity. It is to be noted that each proposition item included in the forms was uniformly classified by competent judges as Feminist or Anti-Feminist and by a smaller number of judges as applying to a particular issue. Irrelevant, ambiguous, and non-specific items were thus eliminated. Items were objectively selected to reflect accurately at least, on the average, the original pattern of issues.

Perhaps the ultimate test of validity would be ratings of trained and competent observers who draw inferences from the total behavior of subjects known intimately in a variety of life situations. Scores on the attitude test showed a fairly close correspondence to the attitudinal behavior of individuals well known to the writer, but this correspondence between quantified test scores and intuitive knowledge is not susceptible to concise presentation.

In addition to the validity criteria of the proportion of the components of a cultural pattern which are accepted and the total attitudinal behavior intuitively known, the criterion of external somatic behavior as expressed in personal activities and in formal group identification may be suggested. A valid test of Feminism would be expected to yield test scores from Feministic and Anti-Feministic groups which differed widely. It proved fairly easy to select groups such as the National League of Women Voters and the National Woman's Party which would be generally agreed upon as Feminist. The problem of selecting an Anti-Feminist or patriarchal group proved to be more difficult. Orthodox Jewish rabbis were considered, but the language difficulties proved too great. It was finally decided

to contrast Lutheran ministers as *FA* score with members of the National Woman's Party and other recognized Feminists.

Contact was established with local representatives of the National Woman's Party.³ A list of 48 members of the National Woman's Party was obtained and to each of these members was sent a copy of the belief-pattern scale. Blanks were returned by 32 women, making the percentage return 67 per cent. A list of prominent members, local and national, of the National League of Women Voters was also obtained. Blanks were sent to these women together with a request for the names and addresses of other recognized Feminists. The women whose names were given were then also sent blanks together with a request for other names and addresses. In this way a list of 171 Feminists was prepared to whom blanks were sent. The return amounted to 56 blanks or a percentage yield of 32 per cent.

During the winter of 1933-1934, 100 blanks were given to a Lutheran minister who was also a graduate student in sociology at the University of Minnesota. These blanks were distributed at a Minneapolis convention of Lutheran pastors. Of the blanks 28 were returned. In the spring of 1934, 60 blanks were distributed at the Northwest Convention of Evangelical Lutheran Ministers. Of this number, a total of 28 blanks were returned. A comparison of the mean *FA* scores is given in Table 5.

TABLE 5
A COMPARISON OF PARTIAL AND TOTAL MEAN SCORES OF FEMINISTS AND LUTHERAN PASTORS

Categories	32 Cases National Woman's Party			56 Cases National League of Women Voters and Acquaintances			56 Cases Lutheran pastors		
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
	<i>F</i>	<i>A</i>	<i>FA</i>	<i>F</i>	<i>A</i>	<i>FA</i>	<i>F</i>	<i>A</i>	<i>FA</i>
<i>FAE</i>	8.62	.85	7.77	7.35	.93	6.42	3.18	4.16	— .98
<i>FAD</i>	6.78	2.25	4.53	6.12	2.77	3.35	5.85	2.49	3.36
<i>FAP</i>	8.46	.54	7.92	8.42	.49	7.93	4.77	5.30	— .53
<i>FAC</i>	6.28	1.90	4.38	5.48	1.63	3.85	3.00	4.14	— 1.14
Total score	30.14	5.54	+24.60	27.37	5.82	+21.55	16.80	16.09	+ .71

³Cordial thanks are due Miss Florence Rood for cooperation in enlisting the help of local Feminists in standardizing this scale.

It is apparent from Table 5 that there is a difference of 23.9 points between the mean score of members of the National Woman's Party and the mean score of Lutheran pastors included in the sample. The standard deviation of the difference of these two means is only 2.08.

The significance of group comparison as a means of establishing validity depends, of course, upon the overt behavior or personality traits implied in the fact of group membership. The above results are consistent with the attitudinal differences which would probably be intuitively recognized by most observers. There is perhaps further significance that the females in the experimental sample of 217 University of Minnesota students had a mean *FA* score of 16.8, while the males approximately equal in number had a mean score of only 6.1. This difference between mean scores of 10.7 has a standard error of difference which is only .09. It would seem that the belief-pattern scale discriminates between groups in accordance with common-sense expectations and in general has validity as a research instrument.

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FASCIST ATTITUDES: THEIR DETERMINING CONDITIONS*

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In a previous paper¹ the author reported an exploratory attitude study in which it appeared that a general attitude, describable as "sympathy for fascism," could be inferred from the reliability and internal consistency of an opinion scale. This opinion scale had been constructed from material gathered in a study of German and Italian fascist movements.

In the present study a revised form of the earlier scale has been used, employing the 18 "best" statements of the original form. These were alternated with 18 "buffer" statements which had been shown to differentiate not at all between the criterion groups, giving a scale of 36 opinions about various current conditions, mainly economic. The entire scale is given in the Appendix.

In this revised scale, only the 18 differentiating items were scored. The scoring scale was weighted from plus 1 to plus 5 according to the success with which each opinion had distinguished the criterion groups in the previous study. The subject was scored only on those opinions he endorsed; if he endorsed a statement emphatically, the scale value of that item counted double. As before, a high score is interpreted as sympathetic to fascism, a low score, as anti-fascist.

SUBJECTS

The subjects include 100 to 200 college students (N varies for different comparisons) and about 400 adults. The college students include psychology and sociology classes at the People's Junior College and social psychology classes from two middle-western universities. The adults include about 100 cases from rural Minnesota²

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¹Fascist attitudes: an exploratory study. *J. Soc. Psychol.*, 1936, 7, 309-319.

²For these cases I am indebted to Miss Magdalene Andren, E.R.A. educational director for Pine County, Minnesota.

and about 300 cases from the Chicago region, comprising unemployed, shop workers, office workers, business and professional men of all kinds.

We have been concerned with, first, comparing the college students with the adults, and, second, analyzing each group separately in an attempt to determine the factors which might make possible a prediction of one's sympathy or antagonism for fascism.

RESULTS

We find that this attitude scale has far greater reliability when applied to adults as compared with students. Two separate groups of adults ($N=60$ and 80 , respectively) gave corrected reliabilities of $.84$ and $.88$, while two groups of students ($N=55$ and 52) gave reliabilities of $.58$ and $.68$. The retest reliability for students was also $.68$ ($N=28$). No retest reliability was obtainable for the adult subjects.

This difference in reliability is in accord with the common assumption that political and economic attitudes do not become integrated as early in life as do some others, e.g., religion. The assumption is also supported by observing that, in the various tables (below) which show the relation of various factors to attitude score, the range of scores for adults is much wider and the differences between groups far more reliable than for students.

There is a slight tendency for students to be more liberal and less variable than adults. Table 1 shows that there is no significant difference in mean score or standard deviation.

TABLE 1
COMPARISON OF COLLEGE STUDENTS AND ADULTS

	N	M	S.D.	Diff.	S.D. _{diff.}	CR
Students	240	20.7	12.0			
Adults	376	22.6	13.5	1.9	0.99	1.91

Sex differences were difficult to determine because few papers were marked with either name or occupation in such a way that sex could be determined. Table 2 summarizes the findings for students, office workers, and rural dwellers where sex was determinable. The only difference which appears to be significant is that for rural

TABLE 2
SEX DIFFERENCES

		N	M	S.D.	Diff.	S.D. _{diff.}	CR
Students	M	79	25.3	11.8			
	F	46	23.8	9.9	1.5	1.9	0.78
Office Workers	M	31	22.9	12.0			
	F	17	25.3	13.3	2.4	3.8	0.63
Rural	M	39	19.1	11.3			
	F	16	33.3	11.1	14.2	3.3	4.29

men and women; but this is based on a small group of cases and, unfortunately, it was not possible to show that they were from the same economic group. This may be important.

It was possible to compare day and evening students of the *PJC* student body. Evening students are practically all regularly employed; they are slightly older and somewhat more serious than the day students. Table 3 shows that they make lower scores on the attitude scale, the difference being rather reliable.

TABLE 3
COMPARISON OF DAY AND EVENING STUDENTS

	N	M	S.D.	Diff.	S.D. _{diff.}	CR
Day	75	24.4	11.9			
Evening	52	19.9	11.3	4.5	2.05	2.02

Intelligence is not a factor in the results, as indicated by a correlation of $-.04$ between attitude and intelligence score (Henmon-Nelson) for 30 students. The inadequacy of this population is offset by the weight of numerous studies which indicate that intelligence is a minor factor in attitude determination.

ECONOMIC INFLUENCES

Turning now to more strictly economic factors, we find in Table 4 a comparison of attitude scores by income groups. Unfortunately, many subjects seemed to consider this private information and did not include it in the questionnaire which was attached to the attitude scale. We cannot judge how these cases would affect the results. Of those answering, both student and adult groups show a curved relationship of income to attitude, the intermediate groups

TABLE 4
FAMILY'S ANNUAL INCOME

	Under \$1000		1-2		2-5		Over \$5000	
	N	M	N	M	N	M	N	M
Students	14	26.1	33	21.5	29	24.9	13	25.8
Adults	95	25.8	104	22.7	48	22.7	16	32.0
1-2 vs. over 5: Diff. 9.3, S.D. _{diff.} 4.37, CR 2.13								

(one to five thousand dollars per year) having more liberal scores than the very low and very high categories. The difference between group 1-2 and group 5 plus (adults³) is rather reliable, the CR being 2.13.

TABLE 5
HOME OWNERSHIP

	Yes		No	
	N	M	N	M
Students	34	25.6	80	23.9
Adults	123	25.1	212	22.1
Diff. 3.0, S.D. _{diff.} 1.57, CR 1.91				

In Table 5 the cases are separated on a basis of home ownership. The differences between property-holders and tenants are in the expected direction, but rather slight.

Since size of family is one index of socio-economic status, we had expected large families to be more radical than small ones. Table 6 shows that this is true for students but is reversed for adults.

TABLE 6
SIZE OF FAMILY

	1-4		5-6		7 or more	
	N	M	N	M	N	M
Students	52	24.9	35	27.7	28	18.3
Adults	178	22.6	104	24.1	62	24.2
Small vs. large: Diff. 1.6, S.D. _{diff.} 1.54, CR 1.04						

In collecting the adult cases, special care was taken to obtain a wide distribution of occupations. Many of them were gathered by

³The differences and critical ratios given under each table relate to adult groups. Few of these differences are significant for the student cases.

students in the author's social psychology class, each student being asked to test persons in a certain occupational category. Others were obtained through contact with organizations, etc. Table 7

TABLE 7
OCCUPATIONAL STATUS AND ATTITUDE SCORE

	N	M
Rural women	16	33.3
Politicians	10	31.5
Shop workers	11	31.3
Retail grocers	18	30.9
Beauty shop proprietors	9	30.7
Architects and draftsmen	12	28.7
Physicians and dentists	21	25.0
Relief shelter men	28	24.8
Miscellaneous office workers	53	23.4
Average	376	22.6
Insurance and finance	27	21.3
Farmers	39	19.1
Tailors and furriers	24	15.0
Miscellaneous professionals	57	14.6
Milkmen	11	12.0

gives illustrative mean scores for diverse occupational groups and Table 8 classifies these cases (and others not listed in Table 7) into

TABLE 8
GENERALIZED OCCUPATIONAL GROUPINGS AND ATTITUDE

	Business		Profes.		Office		Manual		Farm	
	N	M	N	M	N	M	N	M	N	M
Students	38	26.0	52	23.5	13	26.2	3	22.0	0	
Adults	98	24.6	118	18.9	53	23.4	29	22.5	39	19.1
Business vs. profes.: Diff. 5.7, S.D. _{diff.} 1.68, CR 3.39										

the general groups, as business, professional, etc. Classification was difficult in some cases, but we do not think we have done violence to the facts.⁴

Especially interesting in Table 7 is the high score made by poli-

⁴E.g., we classified accountants as professionals, not as office workers, because they are tending to become consulting experts not permanently attached to any one company. Tailors and furriers we put in the business category, although they are also skilled workmen.

ticians⁵ and by small retail tradesmen. The group listed as shop workers is apparently not characteristic, as shown by comparison with the entry "manual workers" in Table 8, which is much lower. That unemployment does not lead to radicalization of opinion is shown by the score of a group of single men in one of the Chicago relief shelters.

Table 8 shows clearly that there are important occupational differences even when the selective effect of particular kinds of enterprises is cancelled out. We feel sure that, if the number of cases in Table 7 were sufficiently increased, much more significant differences, which are obscured in Table 8, would be found.

TABLE 9
MEMBERSHIP IN LABOR ORGANIZATION

	Organized		Unorganized	
	N	M	N	M
Students	42	21.9	76	25.7
Adults	110	18.9	266	24.2
	Diff. 5.3, S.D. _{diff.} 1.48, CR 3.58			

Table 9 shows the relationship between labor organization and attitude score. In the case of students, they were asked to indicate if their fathers were members of trade unions, unemployed or farm organizations; for adults, the question was, "Are you a member?" In both groups the influence of organization is in the direction of a more liberal attitude score. The difference in the case of adults is quite reliable, being 3.58 times its standard error.

DISCUSSION

The opinions comprising the attitude scale cover a wide range of issues, from nationalism to imperialism, anti-labor and anti-radical feeling, and a position of general superiority to the lower economic classes which we have provisionally designated "petit-bourgeois class consciousness." This last is illustrated by statements such as: "The people who complain most about the depression wouldn't take a job if you gave it to them" and "Any able-bodied

⁵It is very hard to get a Chicago politician to fill out any kind of questionnaire!

man could get a job right now if he tried hard enough." Needless to say, this attitude is not confined to the upper income groups! Our survey does not reveal evidence of any strong working-class solidarity.

While we have attempted no statistical analysis to prove the existence of a general factor of "sympathy for fascism" beyond that reported in the previous paper, it should be obvious that it would be straining the law of probability to undue lengths to explain on the basis of independent specific attitudes or "sets" the highly consistent trends shown in the foregoing tables. "Common sense," an authority at present in disrepute but still useful as a check to unbridled theorizing, makes it obvious that something binds these isolated units together into an effective integrated reactive system. Further psychological analysis of this reactive disposition will be attempted in a further paper.

In terms of economic status, it is important to keep in mind the following points. In both Germany and Italy, the middle classes (land owners, retail business men, small manufacturers and well-to-do professional groups) found themselves threatened by a growing monopoly capitalism from above and a growing revolutionary disposition from below which presaged the abolition of all private ownership of capital goods. These economic groups attempted to defend themselves by dictatorship, by breaking up labor unions, by attempting to regulate monopoly capital, abolishing political parties, building up intense nationalism, etc. The finances for these movements have been shown to come from the upper income groups and the "fascist militia" from the lowest income groups, in interesting parallel to our observation in Table 4.

Other of the preceding tables also confirm the economic analysis of fascism. We find that the small retailers, the "prestige" group of professionals, parts of the rural population, and even a considerable proportion of the urban proletariat are favorably disposed. It should be added that the farming population is probably much more reactionary than indicated by this sample, which comes from a district in which the Farmer-Labor party is strong. The importance of this and other points will be elaborated below, in connection with political determinants of this attitude.

Many of the group differences reported for students in the present study reach the statistical criterion of thrice the standard error, but it will be found without exception that the conservative adults are more conservative and the radical adults are more radical than the corresponding student groups.

Table 11 shows the mean scores of persons endorsing the different presidential candidates in 1932. The differences for the adults are in the expected direction: the Republicans are slightly more conservative than the Democrats, and the Communists slightly more radical than the Socialists. These differences are not significant, but the difference between either of the "old-line" parties and either of the radical parties is highly significant. The situation for students is slightly different in that the Republican students seem slightly more liberal than the Democrats. Otherwise they follow the same distribution.

One point calls for special consideration in this connection: either we have a selection of cases heavily weighted with radicals and undersupplied with Republicans or else the radical vote in 1932 was largely left uncounted. This point is significant in computing the percentage of individuals changing from one political column. To illustrate: a comparison of Tables 11 and 12 indicates a 54 per cent decline in Republican strength, 1932-1935, and a 54 per cent increase in the Socialist vote over the same period; but, if the base figures are respectively too small and too large, then the Republican decrease is relatively less and the Socialist gain relatively more. However, we can say that for our population these figures show the relative rates of shift.

TABLE 12
POLITICAL PREFERENCE, 1935

	Roosevelt		Hoover		Thomas		Foster	
	N	M	N	M	N	M	N	M
Students	72	26.4	11	23.6	26	18.1	0	
Adults	218	25.0	21	31.3	54	16.3	28	10.5
Hoover-Foster: Diff. 20.8, S.D. _{diff.} 3.05, CR 6.82								
Roosevelt-Thomas: Diff. 8.7, S.D. _{diff.} 1.63, CR 5.33								

Table 12 indicates the voters endorsing the four candidates as of Spring, 1935. For both students and adults we find approximately a 50 per cent decrease for Republicans and a corresponding

out this hypothesis. For both student and adult subjects the "others" group is significantly lower than either of the two old parties.

In one respect our data seem to go contrary to what is popularly believed regarding the influence of parents on the child. Offhand, one would say that Tables 13 and 14 show the mother to be a more important influence in determining degree of radicalism or conservatism than the father, because the differences and critical ratios are larger in 14 than in 13. We doubt that this is true. It will be noted from the size of N that 272 individuals reported political affiliation for father and only 222 for mother. Those who reported M also reported F, but not vice versa. Despite the fact that woman's suffrage has been the rule for some 15 years, it is still true that many women do not interest themselves in politics or vote; and the adult subjects reflect the even lesser interest of pre-suffrage days. Hence we infer that in most of these cases where the mother's political affiliation is reported, it is simply an intensification of the father's influence rather than being more effective in itself. Few cases reported differences between mother and father in preference!

The last of the comparisons which we have made between attitude score and political leaning is the following. Each subject was asked to check one of the following five choices with reference to both Soviet Russia and Nazi Germany: strong approval, some approval, no opinion, disapproves, disapproves strongly. These are reported in Tables 15 and 16 as 1, 2, 3, 4, 5, respectively.

TABLE 15
OPINION OF NAZI GERMANY

	1		2		3		4		5	
	N	M	N	M	N	M	N	M	N	M
Students	0		10	28.3	5	28.2	21	24.0	78	23.5
Adults	3	27*	22	19.9	18	36.7	43	24.0	239	21.0
3 vs. 5: Diff. 15.7, S.D. _{diff.} 1.95, CR 8.05										

*Median.

The attitudes on Nazi Germany may have been influenced by the fact that a considerable portion of the population was Jewish;

TABLE 16
OPINION OF SOVIET RUSSIA

	1		2		3		4		5	
	N	M	N	M	N	M	N	M	N	M
Students	5	21.2	47	23.9	14	26.1	21	25.1	27	24.8
Adults	33	11.4	98	17.7	47	25.2	39	25.8	94	27.2
1 vs. 5: Diff. 15.8, S.D. _{diff.} 2.19, CR 7.21										

however, a consideration of those blanks known not to be Jewish did not give much different results. An overwhelming proportion (73 per cent) disapprove strongly of Germany. The average of this group is markedly lower than the average of the 86 cases not checking "strong disapproval." The difference between positions 3 and 5 is highly significant. We could not arrive at any characterization of those 22 cases averaging below the adult mean and yet checking "some approval" for the Nazis. The data for students are consistent with an expected high score for approval, low score for disapproval.

On the question of Soviet Russia the adult scores show perfect consistency. There is a uniform progression from left to right, those checking the more unfavorable positions being also the more conservative. The differences for students are inconsistent, those approving being only slightly more radical than those disapproving. (As some subjects noted, one may approve Russia's program and disapprove the methods.)

DISCUSSION

As in the economic field the first step of fascist governments was to smash labor unions, so in the political field the first step was to outlaw the Communist and Socialist parties. It is thus another signal confirmation of the hypothesis on which this study was begun that such large and highly significant differences in attitude score are found between political radicals, on the one hand, and political conservatives, on the other. And these wide differences occur without a single reference being made in the contents of the scale itself (see Appendix) which could be taken personally by either radicals or conservatives (with the possible exception of item 12, which specifically refers to radicals).

It will be recalled that it was by holding up the bugaboo of political radicalism as a threat to the status of the middle class that both Mussolini and Hitler obtained power. It is more than apparent—it is striking—that the same technique will be very effective in this country.

While it appears that we could predict an individual's score with some accuracy by asking him two questions: whom he would vote for today, and which of five positions he would endorse on Soviet Russia, we do not believe that this attitude is as simple or as limited as that. Indeed, it is obvious from a look at the opinions that political party (or Soviet Russia) has nothing per se to do with the attitude score. If one says, "Any able-bodied man could get a job right now if he tried hard enough," this tells us little directly about his political affiliation. On the other hand, it makes it possible for us to judge his political leanings, particularly as to the parties he does *not* belong to. Our process of reasoning leads us from the opinion itself to a generally snobbish and superior attitude toward the working class, and we infer from this that the individual is not a member of a working-class party. A similar inference may be made from "these unemployed organizations are just a bunch of chronic complainers" and many others of the statements employed. The fact that these statements are internally consistent with other statements relating to property rights, imperialism, nationalism, etc. is evidence that there we have a more widely generalized set of attitude-correlates than has been found to exist in other studies. Several investigations of political conservatism and radicalism in college students have indicated a certain trend toward generalization, and it may be that only the failure to use mature subjects, in whom this attitude has become integrated through contact with actual economic and political facts, prevented a convincing demonstration.

It will be recalled that this study had its inception in a purely empirical approach to the problem of fascism in the American situation.⁶ While the phrases used in the opinion scale relate to American conditions, every idea expressed was taken from a study of European fascism. We had no a priori conceptions regarding the relationships between American political line-ups, economic con-

⁶See footnote 1.

ditions, etc., and the opinions employed. We did not feel certain that "sympathy for fascism" and "politico-economic conservatism" would turn out to be equivalent phrases. Obviously, in an individual sense they still are not equivalents. Many conservatives are strongly opposed to "fascism"—*as a certain kind of stereotype*. They are not opposed to the ideas and principles which would make up a fascist program under a different name.

And here we recur to a point which we emphasized in discussing methodology in the previous paper, viz., that in studying highly emotionalized attitudes it is essential that we avoid certain stereotypes which will set off superficial responses rather than the basic responses we desire to elicit and to count. It is obvious that, if we made up a scale ranging from statements such as "I think fascism is lovely" to "I think fascism is terrible," we should get attitude scores, but they would not represent the basic attitude which made it possible for fascist appeals to raise a tremendous mass following in Italy and Germany. And we should not learn anything about the specific responses which are integrated into the general attitude or disposition to react.

The effect of stereotyped thinking is shown to a fair degree by Table 6, reactions toward Nazi Germany. Seventy-three per cent of the population endorsed a position of strong disapproval. Most of this 73 per cent did not know anything about what has really happened in Germany. They have heard certain atrocity stories—many are Jewish, and know personally of the persecution of their relatives—and without further ado they check this position on the rating scale. This check does not show their attitude toward breaking up trade unions (many would favor it!), radical political parties, unemployed organizations, etc. This example may make clearer what is often a point of confusion, the difference between an emotional stereotype and a true attitude. We have tried to *measure* the attitude and then establish its *relationship* to certain stereotypes.

SUMMARY

1. On this scale for sympathy toward fascism, adults show much more consistent, better-integrated reactions than college students, although in terms of mean score and variability there is not much difference.

2. Within groups of the same age and occupation, sex differences are insignificant.

3. The following economic factors are conducive of attitudes sympathetic to fascism: income below \$1000 or above \$5000 per year; home ownership; occupational category of business, office-worker, or high-class professional; not being a member of a labor organization.

4. The political correlates of the attitude are as follows: In a classroom situation, the study of political psychology with a Marxian bias gives a low score; supporters of Foster, Thomas, Roosevelt and Hoover arrange themselves in ascending order on the scale; subjects whose parents were Republican or Democratic score higher than those of other political groups; disapproval of Nazi Germany and approval of Soviet Russia make for low scores.

5. It is urged that in attitude studies care be taken to avoid using emotional labels which will set off stereotyped responses, concealing those which are really significant.

APPENDIX

OPINIONS ABOUT THE DEPRESSION

Many different opinions have been expressed about the depression, what caused it, what it has done to people, and what is likely to happen in the future. To get a cross-section of public opinion, we ask you to indicate your opinion on these questions.

If you agree with a statement, make a check by it.

If you disagree, make an *X* by the statement.

If you agree or disagree very strongly, make a double check or double *X*.

- | | | |
|---|-----|---|
| 0 | 1. | Conditions are likely to get better in 1935. |
| 1 | 2. | Recovery has been delayed by the large number of strikes. |
| 0 | 3. | The farmers have been hit harder than the city workers. |
| 5 | 4. | The U. S. should stop immigration to give American workers more jobs. |
| 0 | 5. | The depression has caused an increase in crime. |
| 2 | 6. | If we buy European made goods, we make the depression in this country last longer. |
| 0 | 7. | Many workers have been unemployed for five years through no fault of their own. |
| 2 | 8. | Building a bigger navy would give men jobs and protect our foreign markets, so that should be done. |
| 0 | 9. | What we need is more international cooperation, not less. |
| 3 | 10. | Most labor trouble happens only because of radical agitators. |
| 0 | 11. | This country should try to get more foreign markets so as to increase prosperity. |

- 4 12. The people who complain most about the depression wouldn't take a job if you gave it to them.
- 0 13. Prosperity would come back if we could show business men that they could invest money at a profit.
- 1 14. The unemployed should be given military training so our country could be protected in case of war.
- 0 15. Italy has taken the wrong way out of the depression.
- 2 16. Any able bodied man could get a job right now if he tried hard enough.
- 0 17. We will always have depressions.
- 4 18. Most people on relief are living in reasonable comfort.
- 0 19. The average person isn't intelligent enough to vote his way out of the depression.
- 2 20. We must protect our trade in the Philippines against the Japanese.
- 0 21. Inflation would solve most of the problems of the depression.
- 4 22. The government must first balance the budget.
- 0 23. There is no excuse for depressions.
- 2 24. CCC camps where the boys learned military discipline and self-control would be a good idea.
- 0 25. The Wall street bankers brought on the depression to clean up on the little fellows.
- 3 26. The president was justified in protecting U. S. interests in Cuba.
- 0 27. If we had stayed out of the World War, we would never have had this depression.
- 3 28. Labor unions are all right but we can't have strikes.
- 0 29. We'd get out of the depression quicker if we had a strong intelligent man with full power to run things.
- 3 30. While raising the standard of living we must safeguard property rights as guaranteed by the Constitution.
- 0 31. The collapse in 1929 was due primarily to overproduction.
- 1 32. The U. S. should make these European countries pay off their war debts.
- 0 33. The U. S. ought to demand its fair share of trade with China.
- 4 34. Unemployment insurance would saddle us with a nation of idlers.
- 0 35. What we need is more businesslike government.
- 2 36. These unemployed organizations are just a bunch of chronic complainers.

(The number in the left-hand margin is the scale value of the item. Only checked items were scored. Double-checked items were scored double.)

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LES ATTITUDES FASCISTES: LEURS CONDITIONS DÉTERMINANTES

(Résumé)

On a fait subir une forme révisée de l'échelle d'opinion de cet auteur pour la sympathie envers le fascisme à 200 étudiants universitaires et à 400 adultes employés et non employés. Il est indiqué que l'attitude dont il s'agit est

beaucoup plus constante et mieux intégrée au niveau adulte. L'analyse des résultats indique que la sympathie envers le fascisme dans la population américaine peut-être indentifiée avec le conservatisme politique et économique. Les Républicains et les Démocrates, les propriétaires de maisons, les hommes d'affaires, les employés de bureau et les hommes professionnels supérieurs donnent des résultats élevés (fascistes). Les Socialistes et les Communistes, les membres des associations ouvrières, les personnes d'un état intermédiaire de revenus, les paysans, les travailleurs manuels et les hommes professionnels qui ne gagnent que peu d'argent donnent des résultats peu élevés. L'approbation de l'Allemagne Nazi indique un résultat élevé, l'approbation de la Russie, un résultat peu élevé. Sur la base de ces résultats on tire la conclusion que l'analyse d'une attitude peut-être le mieux accomplie si l'on évite les stéréotypes émotifs tels que le mot "fascisme" et se concentre sur une investigation des croyances et les préjugés à la base.

STAGNER

FASZISTENANSICHTEN: IHRE BESTIMMENDEN BEDINGUNGEN (Referat)

Eine veränderte Form der Ansichtenskala des Autors für Sympathie mit dem Faschismus wurde 200 Universitätsstudenten und 400 Arbeitern und Arbeitslosen gegeben. Es stellte sich heraus, dass die Einstellung viel übereinstimmender und besser integriert bei den Erwachsenen ist. Die Untersuchung der Ergebnisse weist darauf hin, dass die Sympathie mit dem Faschismus in der amerikanischen Bevölkerung mit politischem und ökonomischem Konservatismus identifiziert werden kann. Republikaner und Demokraten, Hausbesitzer, Geschäftsleute, Bureauleute, und Berufsleute erzielen hohe (Faschisten) Werte. Sozialisten und Kommunisten, Personen des Mittelstandes, Landwirte, Handarbeiter, und schlechtbezahlte Berufsleute erzielen niedrige Werte. Billigung des Nazideutschlands weist auf einen hohen Wert hin, Billigung des Kommunismus auf einen niedrigen Wert. Auf Grund dieser Ergebnisse wird angenommen, dass die Untersuchung einer Einstellung am besten erzielt werden kann, wenn wir emotionelle Stereotypen wie das Wort "Faschismus" vermeiden und an eine Untersuchung der zugrunde liegenden Glauben und Vorurteile denken.

STAGNER

INTELLIGENCE AND NATIONALITY OF WISCONSIN SCHOOL CHILDREN*

From the Psychology Laboratory of The University of Wisconsin

RUTH BYRNS

To determine whether significant differences in mental capacity exist between racial and nationality groups is difficult because of certain disturbing factors which are difficult to control, to isolate, or to measure. Chief among these factors are differences in selection, in social and economic status, in educational and cultural experience, and in facility with the language of a test, where a verbal test is employed. It is because of these disturbing factors that studies of the differences in intelligence between ethnic groups show inconclusive and unsatisfactory results. An example of this is found in the inferences drawn from the wide differences between nationality groups shown by the intelligence tests used in the United States Army during the World War and the contradictory conclusions drawn from subsequent research. The material presented here is a study of natio-racial differences in mental ability with two of the disturbing factors—variation in education and in the ability to use language—definitely minimized. With these two factors practically eliminated it is significant to note that there is a considerable shift from the rankings of the nationalities determined by the psychological examinations in the United States Army.

The nationality of each of 133,289 pupils in Wisconsin high schools and the percentile ratings of these pupils on standardized intelligence tests are the data on which this study is based. The fact that all of these pupils have tenth- and twelfth-grade standing, and have completed approximately ten to twelve years of schooling, minimized the influence of educational differences and tends to eliminate the differences due to language difficulty. It is recognized that neither of these two factors is completely eliminated, however. Social and economic differences contribute as well as schooling to educational

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and cultural experiences. A number of the children undoubtedly were handicapped in their use of English because they came from homes where a foreign language was spoken.

The data are a part of information collected by the Wisconsin Cooperative Testing Committee under the general direction of V. A. C. Henmon. The entire group of 133,289 is composed of 23,165 high school seniors who were given the American Council Psychological Examination in December, 1931, 25,839 seniors and 25,812 sophomores who were given Form *A* of the Henmon-Nelson Test of Mental Ability in December, 1932, and 26,403 seniors and 32,070 sophomores who were given Form *B* of the Henmon-Nelson test in December, 1933. The nationality of each of these pupils was found by including this question on the information blank:

Countries of ancestry	}	Father	Mother
i.e., foreign extraction		e.g., English, German, Italian, Jewish, Swedish	
		Negro, etc.	

The psychological test scores were tabulated according to the natio-racial groups and the median and quartile points were found for each group. The groups were then arranged in order according to the size of the median. Thirty different nationalities were reported with frequency. Indians, Mexicans, Japanese, and Chinese were found so infrequently that they were classed in the miscellaneous group which also includes Turks, Armenians, Spanish, Portugese, and a large number of racial mixtures which were reported so infrequently as not to justify a separate heading.

Of the 133,289 pupils, 78,560 reported both parents of the same nationality and 49,145 reported that the two parents were not of the same nationality. Of this latter group 5516 reported three or more nationality strains. The number of students who did not report nationality was 5584. Excluding those tabulated under miscellaneous, 83 classifications were found fifty or more times.

The psychological test ratings of the 78,560 boys and girls of single natio-racial strains are listed in Table 1. The thirty groups are arranged according to the size of the medians and with the data grouped in decile divisions.

The wide range in the average mental ability of the different natio-racial groups is shown by the 30-point range in the medians given in Table 1. The high median of 60.40 for the large group of Jewish pupils and the low median of 30.36 for the large number

TABLE 1

NATIONALITY AND MENTAL ABILITY OF 78,560 WISCONSIN HIGH SCHOOL STUDENTS

Psychological percentiles	Jewish	Irish	Danish	Hungarian	Dutch	Scotch	American
90-100	248	396	116	44	92	35	1826
80-89	166	351	111	38	100	30	1804
70-79	137	298	92	36	90	30	1558
60-69	136	243	104	37	78	16	1813
50-59	161	318	124	36	99	28	1705
40-49	111	258	113	42	96	26	1892
30-39	112	227	99	26	78	37	1677
20-29	102	276	81	24	74	24	1539
10-19	96	256	89	40	83	25	1813
0-9	94	239	53	31	65	18	1648
Total	1363	2862	982	354	855	269	17,275
Q^s	84.4	80.9	77.9	78.1	77.5	79.2	75.5
Median	60.4	55.5	54.5	53.8	53.1	51.6	50.4
Q^1	34.3	27.9	32.2	27.2	28.8	30.	25.5
Q	25.	26.4	22.8	25.4	24.3	24.5	25.

TABLE 1 (continued)

Psychological percentiles	Welsh	German	Czech	Austrian	Jugoslav	Finnish	Swedish
90-100	22	2716	35	61	21	36	178
80-89	29	2911	23	59	31	49	189
70-79	13	2737	28	56	30	49	164
60-69	23	2768	40	64	31	37	170
50-59	18	3213	52	59	30	46	178
40-49	29	3101	32	73	38	50	190
30-39	29	3055	42	70	33	41	160
20-29	13	2770	38	57	21	46	207
10-19	17	2972	40	65	36	52	183
0-9	18	2763	35	55	27	44	204
Total	211	29,006	365	619	298	450	1823
Q^s	78.6	74.	68.6	73.7	72.5	74.3	74.5
Median	49.8	49.4	48.5	48.5	48.4	48.4	48.2
Q^1	31.6	25.4	24.2	26.1	25.4	23.5	23.3
Q	23.5	24.3	22.2	23.8	23.5	25.4	25.6

TABLE 1 (*continued*)

Psychological percentiles	Lithuanian	Russian	Norwegian	Canadian	Croatian	English	Bosnian	Greek
90-100	30	67	459	18	12	537	74	14
80-89	29	70	546	15	13	480	84	22
70-79	46	55	533	12	5	514	105	19
60-69	47	78	542	10	9	471	98	11
50-59	52	63	604	16	6	523	107	19
40-49	64	72	608	10	14	522	107	28
30-39	45	77	613	22	9	563	107	27
20-29	36	61	544	12	9	557	112	20
10-19	46	80	664	15	12	645	120	20
0-9	41	85	630	19	13	696	118	22
Total	436	708	5743	149	102	5508	1032	202
Q^s	69.1	72.7	71.9	76.4	79.	73.	70.4	72.3
Median	47.8	47.	46.9	46.5	45.7	45.6	45.5	44.2
Q^1	26.1	21.9	22.6	22.7	20.5	20.6	21.7	24.2
Q	21.5	25.3	24.6	26.8	29.2	26.1	24.3	24.

TABLE 1 (*continued*)

Psychological percentiles	Swiss	Slavic	Belgian	Polish	French	Negro	Syrian	Italian	Total
90-100	35	12	14	262	59	3	4	46	7472
80-89	56	14	32	307	56	5	6	70	7696
70-79	49	29	30	334	65	15	6	82	7217
60-69	43	26	33	354	61	9	7	97	7456
50-59	39	25	29	436	65	12	10	133	8206
40-49	58	35	39	568	95	12	8	128	8419
30-39	60	20	36	471	93	17	10	154	8010
20-29	61	35	34	509	89	10	9	162	7532
10-19	62	31	43	536	104	18	16	225	8404
0-9	52	29	48	613	139	23	14	312	8148
Total	515	256	338	4390	826	124	90	1409	78,560
Q^s	72.3	66.5	67.4	64.5	65.6	61.1	60.7	55.7	73.8
Median	43.8	43.7	42.	41.1	38.7	36.4	36.	30.3	48.5
Q^1	22.4	21.1	18.4	19.	16.4	14.4	15.3	11.7	24.1
Q	24.9	22.7	24.4	22.7	24.5	23.3	22.7	21.9	24.8

of Italian pupils presents this range of average ability in a striking manner. The 17,275 pupils who named their nationality simply as American may be regarded more or less as a control group. It would seem that this American group would represent a cross section of all abilities and all nationalities. Table 1 shows that this is the case and that the "American" pupils contain the full range of mental ability with the median and quartile points practically identical with the median and quartile points of the whole distribution of cases.

This table also shows that each nationality group, regardless of its position in the scale, has a considerable proportion of cases in each decile in the mental ability distribution. In other words, the full range of ability is found within every natio-racial group and the ability differences within each group are much greater than the differences between the average ability of the groups. Among the pupils in Wisconsin high schools different nationalities have contributed different proportions of pupils of superior, average, and low ability but every nationality has contributed some students of all ability levels.

To compare the mental ability ratings of the various nationalities found in this study with the ratings made in connection with psychological testing in the United States Army, the fifteen nationalities which appeared in both studies are listed in Table 2 in rank order according to the results found in each study. One of the most significant differences shown in this table is the drop of English and Canadian from first and fourth places in the Army study to eleventh and tenth places in the Wisconsin study. Superior ability in the use of the English language no doubt gave these two nationalities an advantage among the adult soldiers which did not operate among the high school pupils. The shift upward in the Wisconsin study of the Russians and Austrians may also be partly explained by the language factor. Seven of the fifteen nationalities had the same rank in both studies or shifted only one place up or down.

It will be noted that among the fifteen nationalities the same four—Greeks, Belgians, Polish, and Italians—fell into the lowest places in both studies. In all four of these nationalities the extensive use of a foreign language outside of school may be a factor contributing to the low rank in the psychological tests. The high rank of the Irish and Danes in the Wisconsin study may be due to a selective

TABLE 2

Average scores on the combined scale for the Army results as given by Brigham (2)			Median psychological test percentile scores in the Wisconsin study		
Country	Average Score	Number	Country	Median percentile	Number
England	14.87	411	Ireland	55.5	2862
Scotland	14.34	146	Denmark	54.52	982
Holland	14.32	140	Holland	53.18	855
Germany	13.88	308	Scotland	51.61	269
Native-born					
White	13.77	81465	America	50.4	17275
Denmark	13.69	325	Germany	49.49	29006
Canada	13.66	972	Austria	48.56	619
Sweden	13.30	691	Sweden	48.29	1823
Norway	12.98	611	Russia	47.08	708
Belgium	12.79	129	Norway	46.92	5743
Ireland	12.32	658	Canada	46.50	149
Austria	12.27	301	England	45.61	5508
Greece	12.02	423	Greece	44.29	202
Russia	11.34	2340	Belgium	42.05	338
Italy	11.01	4009	Poland	41.16	4390
Poland	10.74	382	Italy	30.36	1409

TABLE 3

<i>Army Test (1)</i>		<i>Wisconsin Test</i>	
Percentage who reached or exceeded the average of native-born American		Percentage who reached or exceeded the median percentile	
Country	Percentage	Country	Percentage
England	67.3	Ireland	56.1
Scotland	58.8	Denmark	55.7
Holland	58.1	Holland	53.6
Germany	48.7	Scotland	51.6
Denmark	47.8	Germany	49.4
Canada	47.3	Austria	48.3
Sweden	41.7	Sweden	48.2
Norway	37.3	Canada	47.6
Belgium	35.3	Russia	47.
Austria	28.2	Norway	46.7
Ireland	26.2	England	45.8
Turkey	25.3	Greece	42.
Greece	21.3	Belgium	40.8
Russia	18.9	Poland	38.5
Italy	14.4	Italy	30.3

factor. At the time of the heaviest migration from Ireland and Denmark the hard frontier life of Wisconsin probably tended to select the most able among the immigrants.

The natio-racial differences as found in the two studies are shown in Table 3 by the percentage from each nationality group who reached or exceeded the average of the native-born whites on the Army tests and the percentage from each group who reached or exceeded the median in the Wisconsin study. This table shows that the differences are much smaller between the natio-racial groups in the Wisconsin study than in the Army test results as far as the relative number of those above the average is concerned. The range of the percentages in the Wisconsin study is only 25.8 as compared with 55.1 in the Army results. From this it might be inferred that differences between natio-racial groups tend to shrink when the factors of variation in education and in the ability to use the language are minimized.

The question that arises from an inspection of the data is whether or not the differences between the various groups are reliable differences. The reliability of a measure of central tendency—the median in this case—is dependent upon both the size of the sample and the variability of the separate measures within the sample. The following formula was used to test the reliability of the differences between the medians:

$$P E_{\text{difference}} = \sqrt{P E_{\text{median}^1}^2 - P E_{\text{median}^2}^2}$$

Table 4 presents $\frac{D}{P E_{\text{diff.}}}$ between the medians of all the natio-racial groups. Where $\frac{D}{P E_{\text{diff.}}}$ is equal to 4 or higher it may be interpreted to mean that the obtained difference between the medians is completely reliable and a true difference greater than zero between the samples is insured. Where $\frac{D}{P E_{\text{diff.}}}$ is equal to 1.9 the chances are 90 in 100 that there is a difference greater than zero between the true median scores of the nationalities; where the figure is 3.00 the chances are 98 in 100 that a true difference greater than zero exists.

From Table 4 it may be seen that many of the differences in the medians are significant and true differences. Between the Jews and

TABLE 4 (continued)

	Russian	Norwegian	Canadian	Croatian	English	Bohemian	Greek	Swiss	Slavic	Belgian	Polish	French	Negro	Syrian	Italian
Norwegian	.1														
Canadian	.1	.1													
Croatian	.3	.3	.1												
English	1.1	2.1	.3	.03											
Bohemian	1.	1.3	.3	.05	.09										
Greek	1.1	1.2	.6	.3	.6	.5									
Swiss	1.7	2.1	.8	.4	1.2	.9	.1								
Slavic	1.5	1.7	.8	.5	1.	.8	.2	.08							
Belgian	2.4	2.8	1.3	.9	2.	1.7	.8	.8	.6						
Polish	4.6	9.6	1.	1.2	7.1	4.	1.4	1.8	1.4	.5					
French	5.2	7.1	2.6	1.8	5.9	4.6	2.3	2.9	2.4	1.6	2.1				
Negro	3.6	3.9	2.6	2.	3.4	3.2	2.3	2.5	2.2	1.8	1.7	.7			
Syrian	3.4	3.6	2.5	2.	3.1	3.	2.2	2.3	2.2	1.7	1.7	.8	.1		
Italian	11.9	19.7	5.6	4.1	17.8	12.4	6.2	8.6	6.9	6.4	12.6	6.4	2.2	1.8	26.8

all other nationalities the differences in medians are sufficiently high to be taken as completely reliable. Between the Polish, the French, and the Italians and all the other nationalities the differences in medians are nearly all sufficiently high to be considered reliable. Between the Croatians and no other nationality is the difference between medians high enough to be taken as reliable. Likewise, the table shows that many of the other differences which appear to be large between medians are not high enough to be regarded as completely reliable.

In viewing this table it must be remembered that the reliability formula measures only the effects of errors due to sampling. Any errors which may result from the failure to get a random sample of the population are not detected by the formula used, and consequently, although the differences in this study between natio-racial groups may be considered completely reliable, it does not allow that differences exist between the nationalities if the entire population were considered. It is extremely unlikely that the sample considered here—tenth- and twelfth-grade pupils—is perfectly representative for any racio-nationality group. In other words, any degree of reliability between the medians refers only to the sample considered—Wisconsin high school pupils—and not to the entire, unselected population.

The psychological test ratings of the entire group of 133,289 seniors and sophomores according to all of the nationality groups are listed in Table 5. The groups are arranged according to the size of the medians.

Perhaps the most striking result of this tabulation is the great range in the medians which means, quite obviously, a tremendous variation between the racio-nationality groups as far as a measure of central tendency in mental ability is concerned. The range in the medians of the nationality groups, from 28.33 to 63.72 for seniors and from 28.82 to 67.50 for sophomores and from 30.3 to 64.06 for the whole group, is in all instances about one-third of the whole percentile range. In most cases, except in some groups where the sample is small, the quartile deviation is rather close to 25 which means that mental ability within the groups tends toward a normal distribution around the median.

Although the psychological test scores of the sophomores and the seniors were tabulated separately as a matter of convenience, this

TABLE 5

Nationality	No.	Med.	Percentage above median	Seniors		Sophomores	
				No.	Med.	No.	Med.
Miscellaneous: three strains	5516	64.06	64.3	3006	63.72	2510	65.38
Scotch and English	770	62.77	63.5	412	60.42	338	67.5
American and Russian	61	62.14	62.3	36	60.	25	61.75
Norwegian and Dutch	99	61.5	56.5	41	55.	58	63.75
English and Swiss	95	61.5	63.1	45	58.33	50	66.67
Welsh and English	252	60.8	65.07	134	60.38	99	61.25
Jewish	1363	60.4	62.2	828	57.68	535	65.5
Irish and Scotch	613	60.29	59.8	328	60.71	305	59.84
Dutch and English	374	60.24	58.	189	60.65	185	59.67
German and Austrian	309	59.98	57.6	196	60.	113	59.55
American and Dutch	122	59.05	65.5	68	62.67	54	56.
American and Danish	247	59.04	59.5	157	57.	90	63.33
American and Scotch	100	59.	59.	61	57.86	39	61.25
Irish and English	1929	58.15	57.7	1013	60.75	886	55.52
English and Danish	284	58.	61.2	137	60.83	147	55.75
German and Welsh	264	56.93	56.06	149	54.06	115	58.64
American and Irish	241	56.61	58.5	154	54.71	87	58.93
German and Swiss	708	56.	57.2	415	53.1	293	60.24
German and Dutch	858	55.91	56.44	441	54.71	417	57.44
English and Swedish	411	55.5	55.4	224	61.82	187	51.46
Irish	2862	55.5	56.1	1593	56.68	1269	54.1
American and Canadian	220	55.24	55.	173	56.64	47	53.13
American and French	92	55.	57.6	43	55.	49	55.
English and Norwegian	1033	54.85	56.24	538	54.5	495	55.14
Bohemian and Irish	124	54.71	56.4	58	45.	66	59.09
Danish	982	54.5	55.7	514	54.5	468	54.5
Irish and German	4364	54.47	55.06	2254	54.24	2110	54.67
Irish and Danish	171	54.33	53.8	94	57.5	77	50.71

TABLE 5 (continued)

Nationality	No.	Percentage above median		Seniors No.	Med.	Sophomores No.	Med.
		Med.					
German and Danish	816	53.91	54.4	438	52.56	378	54.91
Hungarian	354	53.8	53.9	220	60.	134	49.23
German and Scotch	681	53.77	54.03	378	53.93	303	53.67
American and Bohemian	74	53.75	54.05	34	53.33	40	54.
Irish and Polish	115	53.67	54.78	44	53.33	71	53.89
Norwegian and Danish	364	53.66	54.12	206	55.29	158	52.5
Dutch	855	53.1	53.6	425	54.17	430	52.46
Total: two strains	43629	52.59	53.10	23855	52.09	19774	53.59
German and Bohemian	931	52.62	52.96	498	51.89	433	53.37
Norwegian and Scotch	168	52.5	52.3	88	45.83	80	56.92
Miscellaneous:							
two strains	3916	52.25	52.	2408	49.72	1508	54.58
English and French	1048	52.2	52.57	539	48.68	509	55.
American and English	419	52.16	52.26	240	51.05	179	53.
Norwegian and Swedish	823	51.95	52.36	446	50.57	377	53.51
German and Norwegian	2225	51.82	52.13	1158	49.69	1067	53.41
Scotch	269	51.6	51.6	170	46.88	99	57.92
Irish and French	915	51.3	51.4	461	52.55	454	50.18
French and Scotch	62	51.25	51.61	24	53.33	38	50.
Irish and Dutch	292	51.07	51.02	156	49.29	136	52.63
German and English	6388	50.60	50.62	3300	49.21	3088	52.09
American	17275	50.4	50.39	12062	49.22	5213	52.62
German and French	2693	50.32	50.38	1412	49.68	1281	50.83
American and German	2820	49.83	50.17	1860	48.07	960	53.81
Norwegian and French	263	49.82	49.8	112	46.43	151	52.81
Welsh	211	49.8	49.7	134	49.44	77	50.71
American and Swiss	77	49.44	49.3	49	53.	28	40.
German	29006	49.4	49.4	15499	48.26	13507	50.94
German and Swedish	914	49.26	49.23	426	50.	488	48.41
Irish and Norwegian	487	48.92	48.66	260	49.7	227	47.96
Irish and Swedish	198	48.89	53.	95	50.31	103	45.67

TABLE 5 (continued)

Nationality	No.	Percentage above median		Seniors No.	Med.	Sophomores No.	Med.
		No.	Med.				
French and Dutch	99	48.75	49.4	30	53.33	69	45.
Czech	365	48.5	48.7	214	52.5	151	39.32
Total: single strains	78560	48.5	48.4	44933	47.9	33627	49.31
Austrian	619	48.5	48.3	370	47.4	249	50.86
Jugoslav	298	48.4	47.9	150	49.13	148	47.33
Finnish	450	48.4	48.2	281	49.05	169	46.54
Swedish	1823	48.2	48.2	1054	47.86	769	48.97
Lithuanian	436	47.8	46.7	242	46.76	194	49.26
American and Norwegian	781	47.78	47.5	524	48.17	257	46.18
German and Belgian	252	47.42	46.4	149	48.91	103	44.78
Russian	708	47.	47.	513	48.67	195	43.7
Norwegian	5743	46.9	46.7	3155	45.47	2588	49.46
Canadian	149	46.5	47.65	119	48.5	30	30.
American and Swedish	296	46.	47.29	208	45.79	88	46.67
Croatian	102	45.7	44.1	47	51.67	55	40.71
English	5508	45.6	45.8	2714	45.78	2794	45.4
Bohemian	1032	45.5	45.3	541	45.07	491	46.35
German and Polish	1277	45.08	45.02	656	43.08	621	48.14
Not Indicated	5584	44.34	44.39	3555	45.19	2029	42.13
Greek	202	44.2	42.07	102	48.18	100	41.76
Swiss	515	43.8	43.1	276	44.	239	43.7
Slavic	256	43.7	41.4	129	43.41	127	44.23
French and Swedish	128	43.33	43.7	52	37.14	76	48.57
Belgian	338	42.	40.8	174	43.08	164	40.
American and Polish	346	41.63	39.59	175	42.62	171	40.68
Polish	4390	41.1	38.5	2242	43.89	2148	37.21
French	826	38.7	37.	406	41.79	420	35.42
Negro	124	36.4	35.4	57	34.64	67	43.14
Syrian	90	36.	36.6	41	28.33	49	41.
Italian	1409	30.3	30.3	661	32.58	748	28.82

presentation does offer a certain measure of the reliability of the data. Consistency of rank for the different racio-nationality groups in both senior and sophomore listings would indicate a degree of reliability of the rankings. To find whether the rankings were consistent the following divisions were made.

Group I	Median above 65	Very High
Group II	Median from 55 through 64.9	High
Group III	Median from 45 through 54.9	Average
Group IV	Median from 35 through 44.9	Low
Group V	Median below 35	Very Low

Only 23 of the classifications shifted from one group to another and had a difference of five points or more in the medians. Of this number, 13 were groups with less than 100 cases and very likely did not represent adequate samples. Of the ten larger classifications which shifted to a considerable degree, explanation can be offered only in the case of the Jews. It will be noted that the median for the 828 senior Jews is 57.68 while for the 535 sophomore Jews it is 65.50. This may be explained by the fact that in 1931, when the data were first being collected, the question asked the high school seniors concerning nationality of father or mother did not include the suggestion "Jewish" among the several listed. In the information from that year it was found that less than 20 students listed Jewish as their nationality. In 1932 and 1933 the suggestion "Jewish" was listed in the nationalities named in the questionnaire and a much larger proportion of students listed this nationality. It seems likely, therefore, that, because many Jews were not correctly listed among the seniors in 1931, the sophomore group represents a more complete sample than the senior group.

It is interesting to note that the students who listed three or more nationality strains had the highest median among the seniors and one of the highest among the sophomores. The significance of this is doubtful, however, as it may mean that a combination of several nationality strains tends to produce superior mental ability or it may simply mean that the students of higher mental ability tended to know and report more complete information concerning their nationalities. It is likewise interesting to note that the group of students who did not indicate their nationality fell well below the median among both seniors and sophomores.

The 43,629 children who listed two natio-racial strains had a

median of 52.59 while those of a single strain had a median of 48.5. Above the median mental ability we find 64.3 per cent of the children who listed three or more natio-racial strains, 53.1 per cent of those who reported two natio-racial strains, and only 48.4 per cent of the children who reported that both their parents were of the same nationality. This indicates that for the cases considered here children of "mixed" natio-racial groups surpassed in mental ability the children of "single" strains.

CONCLUSIONS

It is impossible to judge whether the results presented here have general significance or whether they hold only for that portion of the population which survives ten to twelve years in Wisconsin schools. Although the factors of language handicap and differences in education are minimized, they are not eliminated, and the factors of selection and differences in social and economic status are in no way eliminated. The factor of selection in this study is a peculiar one and includes the selective influence that enters into the migration of peoples as well as the selective influences that the schools play in different nationalities. In other words, high school pupils do not necessarily represent the same sort of sample for all the natio-racial groups.

With all the limitations taken into consideration there are, nevertheless, certain significant conclusions which may be drawn from these data. The rank of the Jewish children with a median higher than that in any other "single-strain" group (see Table 1) supports the general conclusion of previous studies that the Jews in this country surpass the average mental ability in America. Likewise, the low rank of the Greeks, Belgians, Polish, and Italians supports the general conclusions of other studies that these natio-racial groups as found in America tend to test low in mental ability. The Russians, Hungarians, Danish, Irish, and Austrian groups in this study rank higher than these groups are generally reported to rank, and the English and Canadians ranked lower than in other published studies. The children who reported three nationality strains ranked highest of all, and those who listed two strains were considerably above those of a single strain.

Perhaps the most revealing conclusion that may be drawn appears

when a comparison is made between the percentage in the natio-racial groups who reached or exceeded the average in the Army test and in the Wisconsin study. The differences are conspicuously smaller in the Wisconsin study. This points to the conclusion that, when language handicap and variation in education are eliminated, the differences in intelligence between natio-racial groups decrease. The fact remains, however, that, even though the differences have decreased, a wide range of statistically reliable differences were found to exist between the average mental ability in the natio-racial groups.

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SHORT ARTICLES AND NOTES

DIFFERENCES BETWEEN CHINESE AND AMERICAN REACTIONS TO THE BERNREUTER PERSONALITY INVENTORY

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The Bernreuter Personality Inventory has recently been tried on over four hundred students distributed in six different secondary schools in Hangchow.¹ The scores show very significant divergence from the percentile norms as published by the author in September, 1932. The Chinese percentiles are presented in Tables 1 to 4, with corresponding American

TABLE 1

PERCENTILES OF *B1-N* SCORES FOR CHINESE AND AMERICAN HIGH SCHOOL STUDENTS

Percentile	Chinese boys	Chinese girls	American boys	American girls
5	— 75 ± 7.0	— 70 ± 7.2	—170	—135
10	— 50 ± 4.6	— 50 ± 4.7	—155	—115
20	— 25 ± 3.8	— 25 ± 3.9	—130	— 98
30	— 8 ± 3.6	— 7 ± 3.6	—103	— 75
40	8 ± 3.4	10 ± 3.5	— 85	— 50
50	25 ± 3.4	27 ± 3.5	— 63	— 25
60	39 ± 3.4	42 ± 3.5	— 45	— 3
70	55 ± 3.6	58 ± 3.6	— 15	23
80	72 ± 3.8	75 ± 3.9	10	50
90	95 ± 4.6	105 ± 4.7	35	93
95	120 ± 7.0	130 ± 7.2	78	115
No. tested	204	201	145	121

TABLE 2

PERCENTILES OF *B2-S* SCORES FOR CHINESE AND AMERICAN HIGH SCHOOL STUDENTS

Percentile	Chinese boys	Chinese girls	American boys	American girls
5	— 80 ± 5.1	— 85 ± 5.1	— 60	— 90
10	— 68 ± 3.3	— 70 ± 3.3	— 43	— 75
20	— 54 ± 2.8	— 55 ± 2.8	— 18	— 53
30	— 42 ± 2.6	— 43 ± 2.6	— 5	— 38
40	— 32 ± 2.5	— 30 ± 2.5	8	— 22
50	— 21 ± 2.4	— 20 ± 2.4	20	— 5
60	— 9 ± 2.5	— 10 ± 2.5	33	10
70	4 ± 2.6	1 ± 2.6	45	27
80	18 ± 2.8	14 ± 2.8	58	48
90	38 ± 3.3	30 ± 3.3	80	75
95	50 ± 5.1	50 ± 5.1	110	100
No. tested	204	201	186	160

¹Mr. Liu Ching-chi, a graduating student at the University of Chekiang, was responsible for the administration and scoring of the Inventory, a Chinese version being used with the original scoring keys.

TABLE 3
PERCENTILES OF *B3-I* SCORES FOR CHINESE AND AMERICAN HIGH SCHOOL STUDENTS

Percentile	Chinese boys	Chinese girls	American boys	American girls
5	— 43 $\pm$ 4.4	— 45 $\pm$ 4.6	— 98	— 90
10	— 30 $\pm$ 2.9	— 35 $\pm$ 2.9	— 88	— 78
20	— 18 $\pm$ 2.4	— 21 $\pm$ 2.4	— 75	— 57
30	— 5 $\pm$ 2.2	— 9 $\pm$ 2.3	— 63	— 40
40	5 $\pm$ 2.1	2 $\pm$ 2.2	— 50	— 28
50	15 $\pm$ 2.1	12 $\pm$ 2.1	— 38	— 15
60	25 $\pm$ 2.1	22 $\pm$ 2.2	— 25	— 3
70	35 $\pm$ 2.2	32 $\pm$ 2.3	— 10	10
80	46 $\pm$ 2.4	44 $\pm$ 2.4	7	28
90	63 $\pm$ 2.9	60 $\pm$ 2.9	30	53
95	75 $\pm$ 4.4	75 $\pm$ 4.6	55	65
No. tested	204	201	187	160

TABLE 4
PERCENTILES OF *B4-D* SCORES FOR CHINESE AND AMERICAN HIGH SCHOOL STUDENTS

Percentile	Chinese boys	Chinese girls	American boys	American girls
5	— 75 $\pm$ 5.1	—103 $\pm$ 5.3	— 60	— 90
10	— 63 $\pm$ 3.4	— 93 $\pm$ 3.5	— 35	— 68
20	— 43 $\pm$ 2.8	— 79 $\pm$ 2.9	— 8	— 43
30	— 32 $\pm$ 2.6	— 66 $\pm$ 2.7	13	— 23
40	— 22 $\pm$ 2.5	— 54 $\pm$ 2.6	26	— 7
50	— 11 $\pm$ 2.4	— 41 $\pm$ 2.5	39	10
60	1 $\pm$ 2.5	— 30 $\pm$ 2.6	51	27
70	14 $\pm$ 2.6	— 19 $\pm$ 2.7	65	43
80	27 $\pm$ 2.8	— 3 $\pm$ 2.9	88	65
90	45 $\pm$ 3.4	15 $\pm$ 3.5	113	90
95	65 $\pm$ 5.1	35 $\pm$ 5.3	125	110
No. tested	204	201	186	160

figures derived from the author's norms. Probable errors following the Chinese scores were calculated on the assumption of normal distributions, since the observed distributions did not seem to indicate any clear departure from normality. Probable errors for the American percentiles are not available, but they are estimated to be slightly larger than the corresponding Chinese figures, judging from the smaller size of samples and wider dispersion of scores. In any case, the crudest estimation of probable errors is sufficient to assure the significance of the differences.

As Tables 1 to 4 show, the Chinese percentiles have higher *B1-N* and *B3-I* scores, and have lower *B2-S* and *B4-D* scores. Not only is this true when boys and girls of the two countries are respectively compared, but

the differences in the main hold even when Chinese boys are compared with American girls. It is only in the extreme lower ranges of the distributions of the *B2-S* and *B4-D* scores that the Chinese boys surpass the American girls, and only in the extreme upper ranges of the distributions of the *B1-N* and *B3-I* scores that the Chinese boys fall very near the American girls.

The interpretation of these differences is much less simple than their discovery. In the first place, items in the Chinese version are likely to carry shades of meaning which are at variance with the original phrasing. The precise operation of this complicating factor is difficult to study. But whatever error it introduced is not expected to account for all the differences between Chinese and American scores. Other errors undoubtedly result from the content rather than the form of certain items. The question, "Do you prefer a play to a dance?" is meaningless to Hangchow students, since dancing is practically unknown in Hangchow. But this is an extreme case which cannot be duplicated in the whole Inventory. Other items may have different meanings for Chinese and American subjects because of divergence in social background. The latter can be taken only as a genuine part of racial differences. In saying that Chinese high school students are more introverted, less self-sufficient, and less dominant than American high school students, the terms Chinese students and American students must of necessity signify students in China or in America as well as students of Chinese or of American parentage. Whether the differences can be wholly eradicated by the control of environment is an interesting question which no attempt will be made to answer.

The significance of the *B1-N* scores perhaps calls for a separate comment. The author of the Inventory has noted that the *B1-N* and *B3-I* scores are practically equivalent.² But introversion seems to be a more universally valid term than neurotic tendency. Introversion implies neurotic tendency probably only when it is considered in terms of deviations from a standard of conduct which may vary considerably for different groups. It is thus of doubtful validity to say that Chinese students as a group are more neurotic than American students, or American girls as a group are more neurotic than American boys, although the *B1-N* scores show significant differences in both cases.

The reactions of the Chinese students as contrasted with those of the American students may very well be summed up in the word modesty. That the Chinese regard modesty more highly than the Americans can be substantiated by any observer who is acquainted with the life of both

²See *Manual* for the Inventory, and Bernreuter, R. G., The imbrication of tests of introversion-extroversion and neurotic tendency. *J. Soc. Psychol.*, 1934, **5**, 184-201.

peoples. This difference in attitude is at least a contributory cause, but may also be a consequence, of the differences revealed by the Inventory.

A minor point of interest is the relative insignificance of sex difference among the Chinese students. Whereas the American norms show distinct sex difference in all of the four measures, the Chinese results reveal practically no sex difference except in the case of *B4-D* scores. This is particularly remarkable in view of the more nearly attained sex equality in America. Both a biological and a social factor may be evoked to account for the wider sex difference in America in spite of the more independent status of its women; one is the practice of chivalry and the other is the function of sexual selection. In China, chivalry is relatively unknown while the function of sexual selection has until recently been minimized by the traditional system of match-making.

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A NOTE ON THREE RECENT PERSONALITY TESTS

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In April, 1933, three personality tests were given to students in psychology courses at Simmons College. As relatively little information about the responses of college students to these tests is available, the results are offered here.

The tests used were the Clark Revision of the Thurstone Personality Schedule (4), Root's short Test of Introversion-Extroversion (3), and Pressey's Interest-Attitude Tests (2). The Clark-Thurstone consists of 25 items, selected from the Thurstone Personality Inventory on the basis of "high incidence, discriminatory power, and cohesiveness," and placed in five-response form. The Root test consists of 10 items chosen on the basis of discriminatory power from the Neymann-Kohlstedt test, and placed in five-response form. The Pressey test consists of four parts, "things thought wrong," "things feared or worried about," "interests," and "traits admired." Each sub-test consists of 90 items, which may be checked or left blank. Items which have been checked more frequently by older than by younger children are scored minus, and items checked more frequently by younger children are scored plus. The total score is tentatively interpreted in terms of "emotional maturity"; the lower the score, the greater the maturity.

The subjects were 236 women students, 152 of whom were taking elementary psychology, and the others, advanced courses in psychology. There were no freshmen in the group. Owing to absences, some students did not take all of the tests.

The tests were given during two class meetings. The students were told that the results would be entirely confidential, would be used for research purposes only, and that each one would be allowed to learn her own score. Signatures were requested. Each student scored her own blanks, and the class was then given explanations of the tests. Six months later some of the group were retested.

Clark-Thurstone. Scores on the Clark-Thurstone (Table 1) ranged from

TABLE 1
SCORE DISTRIBUTIONS ON THE CLARK-THURSTONE, ROOT INTROVERSION-EXTRO-
VERSION, AND PRESSEY INTEREST-ATTITUDE TESTS

Clark- Thurstone Score	F	Root		Pressey Interest-Attitude Tests		Test			
		Score	F	Score	Total	I	II	III	IV
				+45+49		1			
		72.5	5	+40+44	1	0			
		70	4	+35+39	0	1	1		
		67.5	5	+30+34	2	5	0		
		65	2	+25+29	0	1	2	1	
		62.5	5	+20+24	3	7	2	2	
75-79	1	60	9	+15+19	1	19	4	3	
70-74	1	57.5	11	+10+14	4	18	17	6	
65-69	4	55	15	+ 5+ 9	10	49	26	17	1
60-64	4	52.5	25	0+ 4	15	49	83	31	0
55-59	8	50	29	— 5— 1	19	41	57	48	7
50-54	10	47.5	18	—10— 6	19	4	4	55	20
45-49	12	45	15	—15—11	24	1		27	36
40-44	29	42.5	12	—20—16	25			3	42
35-39	23	40	8	—25—21	25			3	33
30-34	33	37.5	11	—30—26	19				30
25-29	31	35	5	—35—31	9				15
20-24	38	32.5	8	—40—36	10				7
15-19	20	30	6	—45—41	4				3
10-14	8	27.5	0	—50—46	4				0
5-9	1	25	0	—55—51	1				2
0-4	0	22.5	2	—60—56	1				
N	223		195		196	196	196	196	196
Mean	33.4		49.3		—14.8	+6.3	+2.8	—3.7	—20.4
σM	0.89		0.73		1.20	0.65	0.45	0.58	0.68
Median	31.1		49.3		—15.5	+5.3	+2.2	—4.0	—19.1
S.D.	13.3		10.1		16.8	9.1	6.3	8.1	9.6
$\sigma S.D.$	0.64		0.52		0.85	0.45	0.32	0.41	0.49

8 to 75, with a mean of 33.4, median of 31.1, and S. D. of 13.3. The distribution was noticeably skewed. These findings agree very well with the norms published by Willoughby for women of corresponding ages (5). The split-half reliability, using the Spearman-Brown formula, was .82 for 142

cases; this is somewhat lower than the values given by Willoughby (4) and by Bernreuter (1). Willoughby gives a test-retest reliability of .89 for 36 cases, retested after 2½ months. In this study the test-retest correlation for 41 cases was .81.

An indirect check on the validity of the Clark-Thurstone as a detector of neurotic tendency was afforded in the following way. During the course of the year, before the tests were given, five of the group tested had come to members of the department of psychology for advice on problems of personal adjustment; all were in emotional difficulties of a neurotic sort. Of these five students, four made extremely high scores (over 60) on the Clark-Thurstone; the fifth, whose main complaint was an inability to make decisions, made an average score.¹ This suggests that a high score on the Clark-Thurstone indicates real maladjustment. It does not, of course, follow that those who make lower scores are well adjusted.

Root Introversiion-Extroversiion Test. Scores on the Root Test were all made positive by adding 50 to each score. High scores are interpreted as introvertive and low scores as extrovertive. The distribution of scores (Table 1) was fairly symmetrical, with mean and median at 49.3 and an S. D. of 10.1. These findings are similar to those reported by Root (3) and by Bernreuter (1). The split-half reliability, using the Spearman-Brown formula, was .58 correlating first half against second half, and .57 correlating even items against odd items. This agrees well with Bernreuter's finding of .59; both are much lower than Root's value of .81. The test-retest correlation was .84 for 36 cases retested after six months, which is very close to the test-retest reliability of .83 given by Root.

Pressey Interest-Attitude Tests. Dr. Pressey has kindly furnished the writer with a mimeographed table giving the number of checks made by students for each of the 360 items, tabulated by grades from sixth grade through fourth year college. An inspection of this table discloses that the method of scoring used in this study (based on the difference between elementary and high school students) is not completely accurate when comparing the results of high school seniors with those of college seniors. If one takes as an arbitrary criterion of significance a difference of at least 5 in the number of checks per hundred cases, 25 items are scored the wrong way, and 68 items are not significant. In spite of this fact, which would seem to necessitate a different scoring key or a revision of the test for use with college students, scores of the present group by the old method of scoring are significantly lower than those of high school seniors.

Distributions for the total score and the sub-tests are given in Table 1. In Table 2 the medians for sophomores, juniors, and seniors and Pressey's

¹Three of these five students made highly introverted scores on the Root, and one made a fairly high total score on the Pressey tests.

TABLE 2
MEDIAN SCORES FOR HIGH SCHOOL AND COLLEGE STUDENTS ON THE PRESSEY INTEREST-ATTITUDE TESTS

	Pressey norms		Diff.	Sophomores	Simmons students		Total	Diff. between Grade XII and total coll. group
	Grade X	Grade XII			Juniors	Seniors		
Total score	+39	+16	23	-14.0	-16.4	-17.2	-15.5	31.5
Test I	+23	+17	6	+5.7	+5.9	+4.0	+5.3	11.7
Test II	+12	+6	6	+2.6	+1.8	+1.6	+2.2	3.8
Test III	+6	+1	5	-4.0	-3.8	-4.2	-4.0	5.0
Test IV	-2	-8	6	-18.8	-18.2	-21.4	-19.1	11.1

medians for high school sophomores and seniors are given for comparison. The differences between the college classes, while in the expected direction, are small and unreliable. There is a large difference, however, between the median for the college group and that for high school seniors; this difference is larger than that between high school sophomores and seniors. Most of this difference is contributed by sub-tests I and IV.

According to Pressey, the split-half reliability of each sub-test is over .90. Due to the large number of items in each sub-test, 90, this seemed reasonable, and was not checked in the present study. The test-retest correlation over a six-month interval was .60 for 38 cases. This figure, however, cannot be interpreted as an indication of test-retest reliability, for reasons which will be given elsewhere.

No data on intercorrelations between the sub-tests have been published by Pressey. The intercorrelations for the present group are given in Table 3. Sub-test I gives the highest correlations, both with the total scores and with the other sub-tests. Of the six correlations between the sub-tests, four are negative and only one, that between Test I and Test II, is significantly greater than zero.

Relation to Intelligence. Most of the students had taken a group intelligence test at the beginning of their freshman year. The seniors had taken the Army Alpha, 1925 Revision, and the juniors and sophomores had taken the 1930 and 1931 editions of the American Council on Education Psychological Examination. In order to make all scores comparable they were first converted into standard scores. The correlations between intelligence and personality tests were: Clark-Thurstone, $+.01$; Root, $+.09$; and Pressey total, $+.08$. It would seem that, whatever these tests do measure, it is not "intelligence."

Intercorrelations. Table 3 gives the intercorrelations for all of the tests.

TABLE 3
INTERCORRELATIONS*

	Clark- Thurstone	Root	Pressey total	Test I	Test II	Test III
Clark-Thurstone						
Root	.38					
Pressey total	.26	.00				
Test I	.16	.00	.61			
Test II	.07	— .15	.42	.26		
Test III	.12	.05	.50	.14	— .09	
Test IV	.17	— .09	.43	— .16	— .07	— .02

*Based on the elementary psychology group. N varies between 135 and 142. The σ_r is .08 for r 's below .43, and .07 for r 's of .43 and above.

Due to the lack of correlation between the Pressey sub-tests, each is treated separately. None of the correlations between the Root test and the Pressey tests is as large as two times σ_r . The correlations between the Clark-Thurstone and the Pressey sub-tests are all positive but insignificant. The correlation between Clark-Thurstone and Pressey total is more than three times σ_r , indicating a small but reliable relationship between "neurotic tendency" and "emotional immaturity."

The correlation of .38 between Root and Clark-Thurstone is statistically reliable, and indicates a significant relationship between "introversion" and "neurotic tendency." The relationship is somewhat curvilinear, as nearly all of the subjects who had very high Clark-Thurstone scores also had high Root scores, while there was little tendency for low scores on the two tests to go together.

A more detailed consideration of the retest results, with special reference to their bearing on the problem of the "opinion-error," will be given in a forthcoming paper.

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RETENTION OF THE EFFECT OF ORAL PROPAGANDA

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THE PROBLEM

Propaganda has been repeatedly found effective in shifting one's attitudes, opinions, or judgments. But how permanent is the effect?

Thurstone (2) measured the retention of the effects of motion pictures upon children's attitudes. He reports that attitudes shifted back about half way toward their original positions in four months. Yet in one group the effect was completely retained for five months.

PROCEDURE

The present study attempted to find out the amount of retention of the effect of 10-15 minutes of oral propaganda. The original effects are reported elsewhere (1). Use was made of the attitudes of American college students toward the Manchurian problem. The first test was given in November, 1932; the second test two weeks later, immediately after the propaganda talk; and the third test in May, 1933. The third test was originally scheduled to be given in March, but postponed owing to the first-page news of Japan's invasion of Jehol. The three tests consisted of exactly the same statements of opinions or attitudes. The first test measured the original attitude; the second, the effect of propaganda; and the third, the retention of the effect of propaganda. The scores were based upon twenty statements of opinion on the Manchurian problem (1). Each statement was checked on a 5-point scale as *AT* (absolutely true), *PT* (probably true or more true than false), *D* (in doubt, divided, open question), *PF* (probably false, or more false than true), or *AF* (absolutely false). The answer indicating a pro-Japanese attitude was scored as 5, the pro-Chinese answer was scored as 1. Answers between these extremes were scored 2, 3, and 4 respectively.

The second test was given immediately after presentation of oral propaganda material. Significant shift of attitudes was found and proved to be due to the propaganda material itself, not simply due to the personalities of the speakers. The significant difference between attitudes as tested on the first and second tests far surpassed the differences as shown in the non-propaganda or "control" groups.

TABLE 1*

Groups Tests	1st	<i>CJ</i> 2nd	3rd	1st	<i>CC</i> 2nd	3rd
N	59	59	28	80	80	52
M	46.03	53.62	48.86	46.88	39.75	46.50
σ	9.20	11.35	7.55	10.00	9.76	11.34
$\overline{D}$		5.13			9.14	
$\sigma_{\overline{D}}$ 13						
$\overline{D}$		1.99			.36	
$\sigma_{\overline{D}}$ 15						
$\overline{D}$		3.03			6.43	
$\sigma_{\overline{D}}$ 28						

*The higher the score, the more nearly the subject accepts the Japanese attitude.

The third test was introduced five and one-half months later, to measure the prolonged retention of the effect of propaganda. The data presented here are based upon two groups of Columbia students. For the sake of convenience, they are indicated by *CJ* and *CC*. The former designate the Columbia group exposed to pro-Japanese propaganda, and the latter the other Columbia group which was given pro-Chinese propaganda (Table 1).

Evidently attitudes, as registered on the third tests by both groups, tend to return to their original positions. In both groups, the differences between the first and third tests are not statistically significant (D/σ_D 's=1.99, .36), but those between the second and the third are significant (D/σ_D 's=3.03, 6.43), and between the second and first are significant (D/σ_D 's=5.13, 9.14). In other words, the average attitude as measured on the third test is more like that expressed on the first test than like that on the second test. So far as total score is concerned, the effect of both propaganda talks nearly disappeared after the 5½-month interval.

TABLE 2

Average difference between		Statement nos. significantly influenced in the <i>CC</i> group							
		7	10	22	23	24	33	34	38
1st test	2nd test	-.44	-.23	-.60	-.35	-.64	-.64	-.66	-.41
1st test	3rd test	.17	.06	-.47	-.15	-.03	-.12	-.02	-.39
2nd test	3rd test	.61	.29	.13	.20	.61	.52	.64	.02

Table 2 shows that a few statements still show retention of the effect of propaganda. As reported elsewhere (1), there were some single statements very significantly affected by the propaganda. Statement No. 24, for instance, showed a minus or pro-Chinese shift of 0.64 on a 5-point scale from the first to the second test. But on the third test it showed only a minus shift of 0.03 from its mean on the first test. Comparing the second and the third tests, it may be said that there was a shift of 0.61 of a step back to the original attitude before propaganda. Only statements Nos. 22 and 38 in the *CC* group (Table 2) and No. 19 in the *CJ* group

TABLE 3

Average difference between		Statement nos. significantly influenced in the <i>CJ</i> group						
		1	14	10	17	19	28	34
1st test	2nd test	.58	.68	.69	.59	.41	.57	.81
1st test	3rd test	.19	.14	.03	.17	.33	.25	.22
2nd test	3rd test	-.39	-.58	-.66	-.43	-.08	-.32	-.59

(Table 3) show no marked difference on the third test from the second.¹ This suggests retention of the effects of propaganda in these few cases.

The total shifts of different individuals from the first to the second test were arranged according to size and grouped into quintiles in facilitating our comparison. As shown in Tables 4 and 5, four quintiles shifted with

TABLE 4

Quintiles	Quintiles in the <i>CC</i> Group				
	1	2	3	4	5
Difference between 1st and 2nd tests	2.35	-3.50	-6.77	-9.80	-14.80
Difference between 1st and 3rd tests	6.57	-2.06	-3.00	-3.81	0.98

TABLE 5

Quintiles	Quintiles in the <i>CJ</i> Group				
	1	2	3	4	5
Difference between 1st and 2nd tests	19.40	12.85	6.87	4.25	-2.46
Difference between 1st and 3rd tests	9.12	4.82	4.86	2.57	-3.50

the propaganda (minus or pro-Chinese shift in *CC*, and plus or pro-Japanese in *CJ*). The first quintile in *CC* and the fifth quintile in *CJ* shifted in a direction opposite to that intended by the propaganda. The four quintiles which were affected as intended show a return to their original positions (i.e., the deviations from Test 1 are less on Test 3 than on Test 2). The quintile which reacted in a direction opposite to that expected shows, in both cases, an *increased* deviation from their original position. For instance, in the *CC* group, the fifth quintile made a plus or pro-Japanese shift of 2.35 in spite of the pro-Chinese propaganda. After a lapse of about 5½ months, it showed an even greater pro-Japanese shift. This group of individuals seems to offer resistance to the pressure of propaganda, and later, long after the propaganda, it shifts still more in the opposite direction, or reacts negatively with even more momentum.

CONCLUSIONS

The present study seems to justify the following conclusions:

1. With a lapse of about 5½ months after a 10-15 minute propaganda talk,

¹No. 22. "China does not respect the treaty rights of Japan in Manchuria."

No. 38. "The Chinese government should suppress anti-Japanese boycott in China."

No. 19. "Japan is justified in using her power to gain control over Manchuria because Manchuria possesses raw materials which are important for the development of Japanese industries."

the international attitudes of college students tend to swing back to their original positions.

2. However, the effect of propaganda upon a few statements may be retained after this period.

3. Those who apparently react against propaganda show greater negative after-effects of propaganda after the 5½-month interval.

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A NEW SCALE FOR SCORING THE BERNREUTER PERSONALITY INVENTORY

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THE SCALES NOW IN USE

In 1931 Bernreuter (1) published his Personality Inventory, purporting to measure four personality traits designated Neurotic Tendency, Self-Sufficiency, Introversion-Extraversion, and Dominance-Submission. The Inventory is too well known to need further description.

In 1935 Flanagan (2), using the method developed by Hotelling (3), made a statistical analysis of intercorrelations among the traits measured by the Bernreuter Inventory and found that 96 per cent of the non-chance variance on all four scales could be accounted for in terms of two independent factors, one of them explaining 78 per cent of the variance and the other 18 per cent. On the basis of his findings Flanagan evolved keys for determining an individual's score on each of these two independent variables. An examination of the responses having the largest weights in the new scoring keys led him to choose the terms "self-confidence (*F-1-C*)" and "sociability (*F-2-S*)" as most descriptive of the traits measured by them. A negative score on either scale denotes possession of the trait in question.

THE NEW SCALE

As a part of another study, the writer made an item analysis of the Bernreuter Inventory blanks of 310 Stanford freshmen falling into the

highest and lowest quartiles of their group in respect to scholarship. In the course of this analysis it was noted that certain individuals tended to mark the response to each item that was most characteristic of the group as a whole, while other persons showed a rather consistent tendency to choose the less popular responses. This fact suggested the possibility that a scoring key with each response weighted according to the frequency with which it was chosen might yield scores of some significance. Similar techniques have been used with varying success by Kent and Rosanoff (4), Pressey (5), and others.

Since no item of the Inventory differentiated markedly between the superior and inferior students, it was assumed that both groups were representative (in respect to all traits measured by the Inventory) of the total population from which they had been selected. They were combined, therefore, and used as the criterion group on the basis of whose responses the new scoring key was devised. The percentages replying "Yes," "No," and "?" to each item were determined and the responses weighted as shown in Table 1.

TABLE 1
METHOD OF DETERMINING SCORING WEIGHTS

"Yes and "No" responses Percentage marking	Scoring weight	"?" responses Percentage marking
50 or more	0	5.0 or more
40 to 49	1	4.0 to 4.9
30 to 39	2	3.0 to 3.9
20 to 29	3	2.0 to 2.9
10 to 19	4	1.0 to 1.9
0 to 9	5	.0 to .9

The scoring key obtained by this method is referred to hereinafter as the Idiosyncrasy scale, the term being borrowed from Pressey. The scale was used to score the blanks of an unselected sample of 100 freshmen at San Jose State College. Correlating the odd with the even items and applying the Spearman-Brown prophecy formula resulted in a reliability coefficient of $.779 \pm .030$. Using the same group of 100 San Jose freshmen, the Idiosyncrasy scale was then correlated with the four original scales published by Bernreuter. Scores of the San Jose students on Flanagan's two scales were not available. However, by combining the correlations derived from the San Jose data with those reported by Flanagan or with those obtained by the writer at Stanford (neither an entirely defensible procedure), a number of estimates of the correlations of idiosyncrasy with *F-1-C* and *F-2-S* can be readily obtained. If Flanagan's data are used, the estimated

coefficients average .914 and .224 respectively; if computed from the Stanford data they average .886 and .203.

Table 2 shows correlations of the Neurotic, Introversion, *F-1-C*, and

TABLE 2

CORRELATIONS OF THE *B-1-N*, *B-3-I*, *F-1-C*, AND IDIOSYNCRASY SCALES WITH ONE ANOTHER AND WITH THE *B-2-S*, *B-4-D*, AND *F-2-S*, SCALES

Source of data	Stanford	Stanford	Stanford	Flanagan	San Jose
Number	621	621	621	305	100
scale	<i>B-1-N</i>	<i>B-3-I</i>	<i>F-1-C</i>	<i>F-1-C</i>	Idio
<i>B-1-N</i>		.906	.917	.887	.885
<i>B-3-I</i>	.906		.881	.858	.884
<i>F-1-C</i>	.917	.881			.900*
Idio			.886*	.914*	
<i>B-2-S</i>	— .371	— .309	— .532	— .594	— .492
<i>B-4-D</i>	— .752	— .665	— .831	— .833	— .700
<i>F-2-S</i>	.276	.332	.073	.06	.213*

*Average of estimated coefficients.

Idiosyncrasy scales with one another and with the Self-Sufficiency, Dominance, and *F-2-S* scales. It is at once apparent that the correlations in the upper part of the table are very similar, ranging from .858 to .917. If corrected for attenuation, they would all exceed 1.00. The formula used in correcting for attenuation is not applicable to this sort of situation, however, since [as both Bernreuter (1) and Flanagan (2) have pointed out] there is some correlation of errors. It is apparent, none the less, that the four scales under discussion measure the same thing to a considerable extent. When the correlations in the lower part of Table 2, involving the *B-2-S*, *B-4-D*, and *F-2-S* scales, are taken into consideration, discrepancies too great to be attributed to chance appear, but a great deal of similarity is still evident.

CONCLUSION

From the foregoing it appears that the Idiosyncrasy scale measures something very similar to what is measured by *B-1-N*, *B-3-I* and *F-1-C* scales. This result, if it is substantiated by further study, bears important implications for the description of personality traits and the interpretation of findings in respect to them.

The Idiosyncrasy scale has an important advantage over the scales published by Bernreuter and Flanagan in that it is one degree further removed from subjectivity. Its validity does not depend on any a priori description or definition of a personality trait. It measures merely the extent to which the responses of a given individual to certain situations differ from the responses that are most typical of the group of which he is a

member.¹ In this connection it should be pointed out that scales (such as Flanagan's) derived by factor analysis methods have, at first glance, an illusory appearance of objectivity. Actually, of course, they are no more objective than the scales upon which the mathematical analysis is based.

The Idiosyncrasy scale appears to be slightly less reliable than those of Bernreuter and Flanagan. The writer is inclined to believe, however, that this defect can be remedied by means of some slight modification in the method of weighting responses. If this improvement in the Idiosyncrasy scale can be made without altering the scoring method radically, the resulting scale will be greatly preferable from the standpoint of practicability to any of those now in use. As the scale now stands, 198 of the 375 possible responses have weights of 0. In contrast with this, Bernreuter's scales have between 30 and 40 zero weights each, and Flanagan's between 60 and 70. All weights other than zero on the Idiosyncrasy scale are positive, ranging from 1 to 5. The weights on Bernreuter's scales range from +7 to -7, and Flanagan's weights from +9 to -9. These differences greatly affect the relative ease with which the Inventory can be scored by the different scales. A skilled and experienced scorer, using two Veeder counters, can score from 15 to 20 blanks per hour by one of Bernreuter's scales. Any person who can perform simple addition accurately and quickly can score from 40 to 50 blanks per hour by the Idiosyncrasy scale with no mechanical aid or previous experience.

The existence of such a practicable scoring device should greatly facilitate experimental work with the Bernreuter Personality Inventory and help us to reach a conclusion as to whether or not it can be used to predict behavior in everyday life situations.

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¹No scoring method can result in any assurance that responses to the Inventory correspond to actual overt behavior, or that the situations sampled are representative of those encountered by the respondents in their daily lives.

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